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THE
NEW-ENGLAND JOURNAL
OF
MEDICINE AND SURGERY,
AND
Collateral Branches of Science.

CONDUCTED BY A NUMBER OF PHYSICIANS.

Vol. XIII.

Homo naturæ minister et interpres tantum facit et intelligit, quantum de naturæ ordine, re vel mente, observaverit; nec amplius scit aut potest.

FRANCIS BACON.

THIRD SERIES, VOL. III.

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1824.

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CONTENTS.

ORIGINAL COMMUNICATIONS.

Remarks on Burns. By George Hayward, M.D.	1
On the Internal use of Spirits of Turpentine in Bowel Complaints of Summer and Autumn. By J. H. Flint, M.D.	10
Case of diseased appearance in the Brain, resembling Hydatids. By William Sweetser, M.D.	15
Case of Aneurism. By Dr Joseph Lyman,	19
Cases of Spotted Fever. By Henry B. C. Green, M.D.	23
Cases with Remarks. By Dr John E. Marshall,	32
Case of Tetanus. By John Phillips, M.D.	38
Remarks on Tetanus. By Dr Abner Howe,	41
Case of Tetanus. By Warren Abbot, M.D.	47
A Case of Organic Disease of the uterus; and a Case of Imperforated Hymen. By C. G. Adams, M.D.	49
Remarks on a Cutaneous Disease called the 'Illinois Itch,' communicated in a letter to one of the Editors. By Horatio Newhall, M.D.	113
Observations upon Parotitis, or Mumps. By A. L. Peirson, M.D.	116
Four Cases with Remarks. By a Contributor to the first Series of the New-England Journal of Medicine and Surgery.	119
Observations on the Functions of the Absorbent System. By Jonathan Knight, Professor of Anatomy and Physiology in Yale College	225
Observations on the various methods of treating the fractures of the Os Femoris, with Cases, in which a new apparatus was successfully used. By Luke Howe, M.D.	229
Case of Bronchotomy. By Calvin Jewett, M.D.	237
Cases of Sore-throat and Fever. By E. Hale, Jr. M. D.	239
Description of four native species of the Genus Cantharis By Thaddeus William Harris, M.D.	243
Observations on the Nature and Treatment of Puerperal Convulsions. By Dr Norman Lyman,	337
Case of ligature of the Carotid Artery. By Mason F. Cogswell, M.D.	357
Dropsy of the Amnion and Fœtus. By a Contributor to the first Series of this Journal,	360

REVIEW.

ART. I.—Memoire sur l'Auscultation appliquée a l'etude de la Grossesse ou Recherches sur deux nouveaux signes propres a faire reconnaitre plusieurs circonstances de l'etat de gestation; lu a l'Academie royale de medecine, dans sa seance generale du 26 Decembre 1821. Par M. J. —et Lejumeau de Kergaradec.	52
ART. II.—A Treatise on Diseases of the Nervous System. Part the first: comprising convulsive and maniacal affections. By J. C. Prichard, M.D. late of Trinity College, Oxford,	56
ART. III.—Surgical Essays. By Baron D. J. Larrey, Surgeon in Chief of the Hospital of the Royal Guard, &c. &c. Translated from the French, by John Revere, M.D. Member of the Royal Physical Society of Edinburgh, &c. &c.	130

ART. IV.—Essays on various subjects connected with Midwifery. By Wm. P. Dewees, M.D. Mem. Amer. Phil. Soc., Mem. Philad. Med. Soc., Mem. Academy of Med. &c.	139
ART. V.—Medico-Chirurgical Transactions, Vol. XII. Part II.	158
ART. VI.—A Treatise on Nervous Diseases. By John Cooke, M.D. F. A.S. &c. 2 vols. Vol I. On Apoplexy, including Apoplexia Hydrocephalica, or Water in the Head; with an Introductory account of the opinions of ancient and modern Physiologists, respecting the nature and uses of the Nervous System,	251
ART. VII.—Cases of Neuralgia Spasmodica, commonly termed Tic Douloureux, successfully treated. By Benjamin Hutchinson, Fellow of the Royal College of Surgeons of London, &c. &c. Second edition. Illustrated with additional examples of the success attending the author's mode of managing this disease: and with a plate representing the distribution of the nerves of the face usually affected,	268
ART. VIII.—An Examination of Essays on Fevers, and other Medical Subjects, by Thomas Miner, M.D. and William Tully, M.D. with some observations on their Doctrines and Practice. By J. L. Comstock, M.D.	279
ART. IX.—Transactions of the Medical Society of the State of New-York, for the year 1824. Together with the Annual Address. By Alexander Coventry, M.D. President of the Society,	281
ART. X.—Medical Dissertation on the Diagnosis and Treatment of Pertussis or Chin-cough, which obtained the Boylston Premium for 1822. By A. L. Peirson, M.D. M.M.S.	289
ART. XI. Illustrations of the Inquiry respecting Tuberculous Diseases. By John Baron, M.D. Physician to the general Infirmary at Gloucester,	367
ART. XII.—Formulary, for the Preparation and Mode of Employing several New Remedies; namely, the Nux Vomica, Morphine, Prussic Acid, Strychnine, Veratrine, the active principles of the Cinchonas, Emetine, Iodine, &c. With an Introduction and Copious Notes. By Charles Thomas Haden, Surgeon to the Chelsea and Brompton Dispensary, &c.—Translated from the 'Formulaire pour la Préparation et l'Emploi de plusieurs Nouveaux Médicaments, tels que le Noix Vomique, &c. par F. Magendie, Membre de l'Institut de France, &c.	379
ART. XIII.—A Practical Essay on Typhous Fever. By Nathan Smith, M. D. Professor of the Theory and Practice of Physic and Surgery in Yale College,	392
ART. XIV.—Transactions of the Associated Apothecaries and Surgeon-Apothecaries of England and Wales,	410

SELECTIONS.

Appearance of Scurvy in the Penitentiary at Millbank,	74
Observations on the Tread-Mill. By Benj. Hutchinson, Esq. Addressed to the Rev. John Thomas Bechin, Prebendary of the Collegiate Church of Southwell, and William Wylde, Esq.	87
Observations on the Tread-Wheel. Contained in a letter, by J. M. Good, M.D. F.R.S. &c. &c.	83
Contagion of the Spanish Yellow Fever,	96
Abyssinian Remedy for Tænia,	97
Therapeutic effects of Hyoscyamus,	97
Impregnation,	97
Fallopian Conception,	98
Diagnosis of Adhesion the Pericardium of the Heart,	98
Carditis caused by Poisoning with Arsenic,	99
Animal Heat,	99
Absorption,	100
On the Aborigines of New Holland,	101

Case of Tic Douloureux, successfully treated by Carbonate of Iron. By John Evans Beale,	102
New Treatment of Croup. By Professor Recamier,	103
Ulceration of the Cæcum,	103
Case of Rupture of the Diaphragm. By M. Jules Cloquet,	104
Case of successful Operation for Salivary Fistula,	105
Fatal effects of Fear,	105
On the therapeutical properties of Strychnine,	105
On the employment of Brucine,	106
Vegetable Milk,	108
On the scorbutus which manifests itself in a local manner during the treatment of Fractures, and opposes their consolidation. By M. Jules Cloquet,	109
Remarks on the employment of the Eau de Javelle with Soda for its Base in the treatment of certain ulcers,	109
Case of Strangulated Diaphragmatic Hernia,	110
Jenckes' Patent Apparatus,	112
Recent Discoveries on the Physiology of the Nervous System. By M. Flourens, Baron Cuvier, &c. Professor Rolando of Turin, MM. Coster, Fodera, Magendie,	179
Art. I.—On the Nature and Treatment of the Distortions to which the Spine and Bones of the Chest are subject; with an Inquiry into the Merits of the several Modes of Practice which have hitherto been followed in the Treatment of Distortions. By John Shaw, Surgeon and Lecturer on Anatomy,	192
Art. II.—Engravings, in folio, illustrative of a Work on the Nature and Treatment of the various Distortions to which the Spine and the Bones of the Chest are subject. By John Shaw, Surgeon and Lecturer on Anatomy,	192
Some Observations on the utility of Opium, in certain Inflammatory Disorders. By John Armstrong, M.D., Lecturer on the Principles and Practice of Physic,	203
Dr Heller on Prussic Acid,	211
Effects of Iodine in Scrofulous Affections,	213
Trial for Infanticide,	214
On the Direct Passage of Substances into the Blood,	216
Inflammation of the Tongue Cured by Incisions,	217
On the Use of the Sulphate of Kina in Intermittent Fever,	218
Application of Galvanism to the Extraction of Urinary Calculi,	219
Application of the Stethoscope to the Diagnosis of Fractures,	220
Detection of Poisoning with Arsenic a month after interment,	221
On the Reunion of Wounds after great Operations,	223
Polypus of the Nose,	223
Oil of Turpentine in Sciatic Neuralgia,	223
Small Pox in Lexington,	224
The Pathological Characters and Sanability of Consumption,	294, 427
View of the recent Progress of the Literature of Pulmonary Diseases. By Dr Romberg,	294
Thoracic Percussion and Abdominal Pressure,	315

INTELLIGENCE.

Massachusetts Medical Society,	329
Medical School in Boston,	331
Lectures on Medical Jurisprudence,	331
Coxe's Memoria Medica,	332
New York Prize Questions,	332
Increase of Medical Colleges,	333
List of New Publications,	334
Notice.	336

Medical Graduates of Harvard University in 1824, with the Subjects of their Theses,	445
Medical Lectures,	445
Boylston Medical Prize Questions,	445
New Medical Journal,	446
Medical Institution of Yale College,	446
Berkshire Medical Institution, connected with Williams College,	447
New-Hampshire Medical Institution,	447
Medical School of South Carolina,	447
New Publications,	448
To Correspondents,	112, 224

The New England Journal

OF

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Vol. XIII.

JANUARY, 1824.

No. I.

Remarks on Burns. By GEORGE HAYWARD, M.D.

[To the Editors of the New-England Journal of Medicine, &c.]

BURNS and scalds often terminate fatally, in a sudden and unexpected manner, at the moment when the injured parts are assuming a healthy appearance and beginning to cicatrize. The extent and situation of the injury seem to have more influence in producing this termination than its depth.

Though volumes have been written upon the accidents from fire, and almost every system of surgery contains descriptions of them with the various modes of treatment that are usually adopted, I am not aware that the precise point to which I allude, viz. death from superficial burns, has been explained or even noticed by any writer. Considerable attention has been given to the fatal termination of deep-seated burns, and the cause of death has of late been considered to be in most instances of the kind, an affection of some of the internal viscera. Difficulty of breathing is frequently one of the most prominent symptoms of these fatal cases, and Cooper in his Surgical Dictionary, in noticing the fact, suggests as an explanation of it that it may be owing to the partial suspension of that function of the skin, which it has in common with the lungs, by which water is thrown out from the circulation, and that the embarrassment of this function on the cutaneous organ produces an inflammation of the lungs. He does not however appear to be perfectly satisfied with this explanation himself, and observes that the kidneys which perform a similar office remain unaffected. He further remarks that it may

be the result of sympathy or be owing to some cause hitherto unexplained.

Sabatier observes in the second edition of his *Médecine Opératoire*, that in burns where the epidermis is removed and the texture of the skin destroyed, 'the pain and irritation are excessive. The part swells and inflames. Fever comes on, and if the injury be upon the neck, the thorax or the abdomen, the patient has a difficulty of breathing. The danger is very great. I have seen persons die where the burn was hardly larger than a crown.'

In some of these cases of severe burns, however, the fatal termination appears to be in no way connected with an affection of the respiratory organs; coma or diarrhœa or strong symptoms of derangement of the nervous system, as watchfulness, delirium or convulsions are the precursors of death, and in some instances the whole system is so prostrated by the extent and severity of the injury, that no reaction takes place, the circulation is languid, and the extremities are cold, and the miserable sufferers linger but a few hours, or at most days.

Every work on the subject of these accidents notices the fatal termination of many of them with symptoms similar to those mentioned above, but it is only of late that any attempt has been made to assign the immediate cause of death in these cases, and thus to elucidate an obscure and interesting point of pathology, if not to improve the curative method. In France M. Dupuytren has called the attention of the profession to the subject in a new edition of the work of Sabatier, before referred to, which has recently been published at Paris under his direction. This edition I have never seen, but it is said that he refers the death in these cases to an inflammatory affection of the mucous membrane of the stomach and bowels.

In the *Edinburgh Medical and Surgical Journal* for July 1823, there are five fatal cases of Burns, with dissections by Dr. Cummin of Glasgow. In all these he found internal inflammation, either in the brain or its membranes, the thorax or abdomen, and the serous membrane appeared to be more frequently diseased than the mucous. These cases were all severe ones, the injury was deep, and in some of them extensive ulceration took place with a copious secretion of pus. On examination of the first case, the only morbid appearance discoverable was a firm adhesion of the left pleura pulmonalis to the pleura costalis. The patient lived thirty five days after the accident, and the fatal termination seemed to have been accelerated by a colliquative diarrhœa and a copious purulent discharge from the injured parts. There does not appear from the report to have been any difficulty of breathing for three weeks before death.

The subject of the *second* case died on the sixth day after the accident. There was no more difficulty of breathing than usually precedes death. 'On inspection, the pia mater was observed in many places morbidly vascular, with several patches of extravasated blood in different parts of its surface. The vessels of the velum interpositum and plexus choroides were very turgid. An ounce of bloody serum lay in the basis of the skull. About two ounces of serous fluid were observed in each side of the thorax; little fluid in the pericardium; lungs healthy.' There was a slight appearance of inflammation in the peritoneal coat of the small intestines, and there were three ounces of serous fluid in the cavity of the abdomen.

In the *third* case there were no symptoms of pulmonary affection and the morbid appearances were confined to the abdominal viscera.

In the *fourth* case, there was some difficulty of breathing in the early part, which disappeared before its termination. On inspection, a single old adhesion of much firmness, on the left side of the chest was found, and there were several red spots on the pleura. The mucous membrane of the bronchia was very vascular, but the peritoneal and mucous coats of the small intestines exhibited the greatest marks of disease, assuming in the latter almost a gangrenous appearance.

'The subject of the *fifth* case died on the third day after the accident with all the symptoms of extreme prostration, but without any affection of the lungs. The morbid appearances were confined to the peritoneum; the lungs were more than usually loaded with blood, but otherwise healthy.'

The above cases satisfactorily establish that internal inflammation is frequently the consequence of Burns on the surface of the body, and that it is often probably the immediate cause of death in these cases. There certainly seems to be some foundation for the opinion of Dr Cumin, that 'the occurrence of inflammation and effusion in internal parts may be regarded as the result of an effort of Nature to relieve herself from the consequences of so severe an injury,' and the seat of the internal disease seems to be determined in some measure by the situation of the external injury, usually occurring directly under the burned part. If subsequent observations should confirm these views, considerable *practical* benefit might be the result, and the general treatment that would be pursued in these cases would be such as is usually adopted to counteract internal inflammation from any other cause.

The kind of accidents however to which I alluded in the commencement of this article, and which it is my particular object

to notice in these remarks, differs somewhat from those just described; it belongs to the second class of burns, as they have been divided by writers, whilst the others must be ranked under the third. In the first of these three divisions there is only increased redness, heat, swelling and sensibility of the part; in the second, there is a serous exhalation under the epidermis, producing vesicles, which gradually increase in size, similar to those from artificial vesication; and in the third, the skin, cellular texture and sometimes even the bones and muscles are destroyed. In burns of the second class which terminate fatally, the injury is extensive though superficial, and is rarely attended with either ulceration or suppuration of the injured parts. It is not unfrequent to meet with accidents of this kind, particularly in children, which terminate fatally, and in which no untoward circumstances occur for several days, and all the symptoms of which assume so favourable an aspect as to lull the apprehensions of the physician and friends as to any unpleasant termination. At the moment the wounds are assuming a favourable appearance and are perhaps partially healed, the little patients are seized with extreme difficulty of breathing, and are hurried off with all the symptoms of thoracic inflammation. Some opinion may be formed as to the danger of these cases, from the seat of the burn; fears are always to be entertained, if it be of any extent, and upon the neck, thorax or abdomen. The following interesting case, communicated to me by my friend Dr Hale, is precisely of the description to which I allude.

'Oct. 14, 1823, Elizabeth Dean aged 6 1-2 months fell upon her face into the burning embers and hot ashes upon the hearth. She was taken up instantly, and her face immediately washed with cold water. Pieces of linen dipped in cold water, were then bound upon it. I saw her about two hours after the accident. The burn extended over the whole front part of the face, including a part of the forehead, the nose, lips, and chin, and a considerable spot upon the chest, making in all, as we thought, an extent of surface equal to about six inches square. In a considerable part of this extent however, the injury did not appear to be very severe;—the worst part was upon the upper lip. Some of the hot ashes had also been drawn into the mouth and burned the tongue; but there were no symptoms which indicated that any had been drawn into the throat. The child had nursed since the accident; and there were no appearances of violent febrile excitement. I dressed the burn with a liniment of Olive oil, and lime water (two parts of the former to one of the latter) spread upon cotton, and directed castor oil, sufficient to move the bowels, to be given, and as much opiated tincture of camphor as

should be necessary to procure some rest, beginning with 30 drops to a dose.

From this time until the 18th the burn seemed to promise well, and the constitutional symptoms were by no means severe. The dressings were soon changed to the lime water of the pharmacopœia, and subsequently, a mixture of the ointment of acetate of lead and marsh mallows ointment was used. The bowels, both in respect to the frequency and the appearance of the discharges, were in good order, the pulse was good, and the state of the skin varied but little from that of health. The dose of the tincture of camphor was gradually increased, but she did not require large quantities to procure a tolerable share of rest. On the 17th she had a slight cough, which was soon removed by a few tea-spoonfulls of syrup of seneka, with a small quantity of opiated tincture of camphor. She had a slight cough from a cold when the accident happened, but had not before coughed much if at all since that time. On the 18th I visited her about ten in the morning. The burn appeared much better than at any previous visit; it was rapidly healing. She had passed an unusually quiet night, sleeping almost the whole night in bed with her mother. She had taken the opiated tincture twice in the course of the evening and night, less than half a fluid drachm at a time. The skin was natural, both in respect to temperature and dryness. Indeed every appearance was better than at any time before, except that she had refused to nurse since early in the morning, and there was a slight irregularity in the breathing. This was not more than might be occasioned by any temporary obstruction in the mouth and nostrils: and as the burnt skin, forming a sort of superficial sloughing, was separating from the lips and mouth, it was possible that that might be the cause of it: and that the tenderness of the lip, when thus exposed produced the disinclination to nursing. As the bowels had not been moved for nearly 24 hours, I directed castor oil to be given.

At 2 o'clock, I was called in great haste with the report that the child was dying. I found her breathing with great difficulty, the face was livid and the extremities were cold; in short there was every appearance of approaching death. The castor oil had not operated. I gave an enema of warm water; and had a warm bath prepared immediately. Before the bath was ready she had several intermissions in the breathing, when the face became still more livid, and the blood oozed out at the burnt places upon the lip. She was somewhat revived by the bath, and breathed considerably better for some minutes after she was removed from it; but she soon sunk back into as hopeless a state

as before. She had frequent intermissions of breathing, several of which were so complete as to lead us to believe that she would not breathe again. At 8 in the evening I visited her again in company with Dr Ware. Her respiration was more regular, but was very quick and laborious, with slight intermissions, and was accompanied by the stridulous sound peculiar to croup. As she had lived so long beyond our expectations, it was thought expedient to repeat the warm bath and to make use of gentle friction with the camphorated soap liniment. I soon after placed her in the bath; but she did not breathe after she was taken from the lap of the nurse until she was returned to it again, and appeared to be dead. But after rubbing her a short time, she breathed again,—somewhat more freely than before. The croup-like sound was gone, and did not afterwards return. At 6 o'clock on the morning of the 19th I was called upon to know what should be given her, as she had revived so much as to be able to swallow; which she had not done since 12 o'clock the day before. I visited her soon after and found her appearance very much altered. The respiration was regular and not very laborious, although still quick, the pulse regular, and distinct, about 160 in a minute. The whole surface of the body was warm; a part of the day it was preternaturally hot and dry, but the most of the time, the temperature and moisture were nearly natural. She coughed frequently through the day, and with considerable strength. She swallowed with avidity whatever liquor was put into the mouth. The tongue was kept in motion almost constantly, being thrust out upon the lips and drawn in with scarcely any cessation. It was clean, and the edges where it was burned were red. She had several discharges from the bowels in the course of the day, of a tolerably healthy appearance. We gave her no medicine but fed her frequently with thin arrowroot, in which was a small quantity of brandy. There had been a serous discharge from the burnt surfaces until the collapse on the 18th, when it wholly disappeared. It returned in a slight degree the 19th. The burn was dressed with the unguentum altheæ. In the evening she was permitted to take the breast, which she did with avidity. She passed a very tolerable night; and on the 20th continued very much in the same state, except that she was evidently more feeble; the respiration was quicker and shorter; and the appearance of the discharges from the bowels was less healthy. These unfavourable symptoms gradually increased until about 11 o'clock on the morning of the 21st when she expired. She nursed only a few hours before death.

Examination 25 hours after death, in company with Dr. Hayward.—There was no appearance of ulceration having begun in

the skin at any part. The burnt skin upon the chest was divided in making the incision, and its appearance was not unlike that which is commonly produced by a blister. On opening the chest the lungs were found to be less collapsed than usual. There were no adhesions on the front part: but on the back part, both lungs adhered. There were considerable marks of recent inflammation, both upon the surface of the lungs and in the pleura. These were more considerable in the left lung, particularly on the part towards the pericardium, to which it adhered pretty extensively. This lung was also more engorged with blood than the other. The lungs were in other respects healthy in their appearance. The mucous membranes of the trachea and of the œsophagus, were neither of them diseased. The branches of the trachea contained a considerable quantity of frothy mucus. We found no marks of disease in the abdomen.

I have met with some other cases of this kind which have terminated in the same way, and am inclined to believe that the affection of the lungs, the proximate cause of death, is not an effort of nature to relieve the injured surface, as it appeared to be in the cases related by Dr Cumin. The skin, it is well known, contributes largely to effect that peculiar change in the blood, which principally takes place in the lungs; hence there is a connexion and sympathy between the cutaneous and pulmonary organs, greater than between almost any other two in the economy. When one is embarrassed, the functions of the other are increased, and if this embarrassment be not very great, no serious inconvenience is experienced. But when a large portion of the skin is injured by heat, so as to disable it from performing its customary functions, the lungs will be required to do more than usual, and if the injury be extensive, the consequence must be, (at least so it appears to me,) congestion in the first instance, and then inflammation. Upon this supposition I think may be explained the fact that the lungs are not affected immediately after the injury, not in fact till the parts are beginning to heal; because it is this very process that suspends the ordinary functions of the cutaneous organ.

Another reason why the difficulty of breathing cannot in these cases be referred, as in those quoted from Dr Cumin, to an inflammation of the lungs, the result of an effort of nature to counteract the irritation on the surface, is, that it does not come on in the early stage when the irritation is greatest, but rarely appears till it has almost entirely subsided. It may be asked if this supposition be true, why the same difficulty of the lungs does not occur from deep-seated burns, in which the cutaneous organ is destroyed; the answer to this is, that when the injury is of suf-

ficient extent to produce any effect on the lungs by the destruction of the cutaneous function, in the way I have supposed, and at the same time so deep as to destroy the organ itself, the shock given to the system is sufficient to produce either a torpid and insensible state of all the functions, or almost immediate death.

It appears to me also, that this supposition will account for the intermissions that are often noticed in these pulmonary affections after burns, particularly from the use of warm bathing and frictions on the surface, which contribute no doubt to support and increase the functions of the skin; nor do I think that these intermissions can be so satisfactorily explained upon the supposition of the existence of active inflammation.

There is another view of the subject, which to some may seem to offer a better elucidation of the difficulty than the one just presented, and that is, the great analogy which there is between the affection of the skin in this class of burns and erysipelatous inflammation. This analogy exists in the *seat*, the *appearance* and the *local treatment* of the two affections. The *skin* or *vera cutis* is the affected organ in both cases, and the formation of vesicles is the result only of the extreme irritation upon it. Diluted alcohol is probably the best local application in erysipelatous inflammation, and there is reason to believe from some experiments of Sabatier, that it is so in those cases of burns in which the cuticle remains whole. Some of the internal organs are, not unfrequently, suddenly and violently affected in erysipelas, and may not this affection be similar to what takes place in some instances after burns? If this be true, is it not probable that in those cases of superficial but extensive burns, in which some of the internal viscera are affected, and in which there is great languor of the circulation and debility and prostration of the whole system, the administration of bark which has been found so serviceable in erysipelas, might be attended with the best results? But admitting this analogy to be striking in every particular, does it elucidate the subject at all, and are we not equally at a loss to account for the affection of the internal organs in erysipelas, which is usually attributed to some sympathetic influence, of which we have no distinct idea, and to the very terms of which we attach no distinct meaning? Is there not reason to suppose that if the lungs be affected in this disease in the same manner as in some cases of superficial burns, the cause is, the same in both instances?

I have made these suggestions however, without attaching much importance to them, with the hope merely of calling the attention of others to a subject whose pathology is so obscure, and in which the present mode of treatment is so unsuccessful.

Before concluding these remarks I will relate a case of considerable interest that occurred in my practice in January, 1821, from which some inferences of importance may be drawn connected with this subject. A child about eight months old was tied into a small chair placed directly before the fire, and left in that situation by its nurse. In struggling he pitched forward and brought his head very near the fire. It was uncertain how long he had remained in that situation; his cries alarmed his mother in a distant room. I saw him in a few minutes after the accident; the top of the head upon which there was a considerable hair *appeared* to be but little injured; but there was a circle extending around it, of at least an inch in breadth, that was most severely burned. For some time I indulged the hope that the portion within this circle had been protected by the hair; before long, however, I discovered that there was a considerable fetid discharge from under the scalp at that place and that sloughing had commenced, and that the whole of that portion within the burned circle was loose. I was desirous of having it remain as long as possible if it were only to protect for a time the parts beneath. Upon the removal of the dressings however a few days after, all this portion of scalp came off with them, leaving the bone beneath entirely bare, for the space of twelve inches in circumference. The parts immediately around healed slowly, and in about six weeks exfoliations began to take place, several of which were removed from the frontal and two parietal bones, the last not till the April following, more than three months after the accident, and in a few weeks from this the parts entirely cicatrized; ulceration however several times took place during the summer over the fontanelles, which healed without much difficulty. It is now nearly three years since the accident; the child has suffered no apparent inconvenience from it, nor did he experience any severe constitutional symptoms during the cure. He is an uncommonly active and intelligent boy.

The circumstances of this case may seem at first view to militate a little with the theory of Dr Cumin, that a great irritation on the surface induces inflammation of an internal organ; but when it is recollected that the scalp is a part of but little sensibility, it seems probable, even admitting his supposition to be true, that the irritation would not be very great from such an injury, at any rate not sufficient to produce sympathetic inflammation in other parts of the system.

It will perhaps be asked why the destruction of so large a portion of the skin did not produce some affection of the lungs, if the theory which I have ventured to suggest were well founded. I answer, because the scalp performs less of that peculiar

office of the skin to which I have adverted, than any other part of the cutaneous organ, except it be perhaps those portions which cover the palms of the hands and the soles of the feet, and I have no doubt from what I have seen of such accidents, that death would have been the result of a burn of the same extent, if it had been on the neck, the thorax or abdomen.

On the internal use of Spirits of Turpentine in Bowel Complaints of Summer and Autumn. By J. H. FLINT, M. D.

[Communicated for the New-England Journal of Medicine and Surgery.]

FROM the effect of terebenthinates in the cure of inflammation of some of the mucous membranes, I was induced, the last year, to employ balsam. copaibæ, after evacuations, in the bowel complaints of summer and autumn—I say, after evacuations, because the general opinion I believe, is, and it was mine, that diarrhœa, dysentery and cholera are the effect of irritation, succeeded by chronic inflammation or congestion—and consequently that the early procurement of alvine evacuations was almost indispensable to their cure. It has seemed to me that sudden death in cholera of infants could not happen from the debility induced by profuse lymphatic discharges. And I have observed, too, in all cases, death has been preceded, invariably, by most unequivocal indications of oppressed brain.

When the alvine evacuations are frequent and profuse—the surface pale and cold—and the patient wearing the ‘stamp and impress’ of death, we are cautioned to avoid evacuants altogether, and instructed to rely on the administration of diffusibles, particularly opium. I am constrained to remark that under these circumstances and subjected to this treatment, in my hands, patients have rarely survived. Indeed I have thought (and I have watched my patients from the commencement of disease to the close of life) that the fatal event was accelerated by the means employed. I am now confirmed in the opinion from having discovered in cases of bowel disease, when I have been permitted to make post mortem examination, the mucous membrane, frequently of the whole track of intestines exhibiting strong marks of high inflammation. Introsusception in children—enteritis and strangulated herniæ in adults, each and all, present the most permanent symptoms of cholera of infants, and if treated with opium and other diffusibles would terminate in death preceded, I have no doubt, by congestion of the brain. The profuse lymphatic discharges in the commencement of cholera may be considered, I think, good evidence of the existence of inflam-

mation, as the same symptom, (i. e.) increased aqueous secretion, characterises a catarrhal inflammation of the bronchiæ—of the mucous membrane of the urethra in gonorrhœa, &c. It is a very trite remark among nurses that copious discharges of blood from the bowels in dysentery are not so dangerous as, what they term, white dysentery or cholera,—simply, because in the former the local inflammation is relieved by the spontaneous disengagement of the intestinal vessels. It is true that inflammation of mucous membranes is not so formidable as of serous ones, nor does it require for its removal such prompt and energetic measures, but it will not be controverted that all inflammations demand in principle, a similar treatment, namely, bloodletting and the antiphlogistic course as it is called, adapted to the severity of disease and to the importance of the part or organ invaded.

On this hypothesis I have treated bowel diseases of the present season in the following manner and with most satisfactory and gratifying results.

In simple diarrhœa, without heat or pain, I give, to an adult, mucilage of gum arabic 3ss—spirit of turpentine 10 drops—to be taken, morning, noon and night.

Painful diarrhœa, and dysentery—with fever, pain and tenderness of the abdomen. I bleed to faintness—and if practicable, immerse in a bath of from 100° to 110°—then administer

Submuriate of Mercury 1 gr.

Compound powder of ipecacuan 3 grs. } incorporated
with crumb of bread and repeated every six hours. Mucilage of gum arabic with turpentine (as before) every six hours, alternating with the pills. If fever and pain continue after 24 hours, either repeat the bleeding or apply leeches to the abdomen and continue the medicines.

In cholera of infants, I pursue substantially the above course, and I am not deterred from abstracting blood by seemingly forbidding symptoms. If there be much apparent languor with pale and cold skin, I first immerse in hot bath and then apply leeches to the abdomen, and give, to a child under two years, instead of the submuriate of mercury

Quicksilver pill

Compound powder of Ipecacuan } 2 grains

in simple syrup, every six hours. Mucilage of gum arabic with turpentine 3ii. every six hours, alternately.

It will appear quite obvious that this outline does not embrace all the means necessary to the cure of disease, neither must it be understood that the medicines are to be administered with mathematical precision.—They must be varied in quantity and time—and suited to the age, habit and circumstances of the sick.

In the first, or what I consider the stage of inflammation, the patient should be kept in bed—warmth on the surface promoted by draughts of warm water or herb tea—by dry rubbing or brushing.

Food and cordials to be interdicted absolutely.

In the second stage, on the abatement of inflammation, which will be known by diminution of pain and tenderness, and a restoration of comparatively healthy peristaltic action, if evacuants are required, I prefer sulphate of magnesia in infusion of senna and annis seeds for a cathartic, and if an emetic be indicated, ipecacuanha—and, finally, to remove chronic diarrhœa which frequently follows a severe disease, I order the mucilage and turpentine to be taken two or three times in the day, adding to it, occasionally, a few drops of the tincture of opium, with daily use of flesh-brush, bland and regular diet.

I may be permitted to make a few remarks on some of the popular modes of treating bowel diseases which have fallen under my own notice—and first, of stimulants, viz: rum, brandy; spices and opium.

I cannot refrain from expressing my thorough conviction that no one ever recovered under this treatment who was not solely indebted to the powers of a good constitution resisting disease, and triumphing over an abuse of the worst means.

Opposed to the stimulant plan, is the soothing practice of giving mucilages, castor oil, manna, magnesia, &c. and the patient is constantly teased with mucilaginous enemas to sheathe the bowels and supply the place of natural mucus.

Recoveries, under this management, are, to be sure, not unfrequent, but I am persuaded in all cases, the restoration would have been much more speedy but for this officious interference.

But a more common method is to evacuate with antimonial emetics and drastic cathartics—Jalap or rhubarb, or resinous cathartics with calomel, 'till the heat recedes from the surface. Then opium and spirit, and bark. &c. are given 'till reaction is produced, when recurrence is had again to evacuants, and then stimulants, again and again—and the patient kept vacillating between life and death, until the system, with most wonderful pliancy, becomes accustomed to the impression of the means employed, and after weeks of severest suffering, slowly recovers.

If there be one cathartic medicine of the whole tribe of cathartics, more deleterious than any other, employed early in dysentery, it is rhubarb. I have, in more than one instance, known inflammation of the mucous membrane of the bowels assuming all the symptoms of severe dysentery, induced by the pernicious

habit which some invalids and sedentary ones have, of chewing daily the root of rhubarb to obviate habitual costiveness. And yet this medicine is considered by some quite a specific in dysentery! If it can ever be used with advantage, and I will add, with safety, it is in the last or lenteric stage of bowel complaints; and even then I think the turpentine incomparably better.

Now I would ask, does not all this discrepancy and contradiction and confusion in the treatment of bowel complaints result from a misapprehension of their true character? Of the practice I have presumed to recommend, I can say, that it has been successful much beyond any I have before adopted—and, in conclusion, I will hazard the conjecture, that terebinthines will yet hold a rank in the cure of many diseases second only to mercurials.

NOTE.

There is a precursory state of indisposition indicated, in adults, by inappetency, listlessness and wandering pain, when the abstraction of blood and a full dose of submuriate of mercury followed by a saline cathartic, with rigorous attention to diet afterward, will arrest disease. It may be detected in children by peevishness, fretfulness, drowsiness and disturbed sleep. Ipecacuanha and submuriate of mercury assisted by a saline purge will generally prevent the impending disturbance of bowels.

When, however, local determination has become local inflammation, and the functions of the stomach and bowels are interrupted or suspended, disease may be said to be fully formed. No time then should be lost in fruitless attempts to procure evacuations by emetics and cathartics. It is a moment as precious as life is dear.

It will be noticed that I use the common spirit of turpentine. From repeated experiments I am satisfied that turpentine has more power than balsam. copaibæ and sits more pleasantly on the stomach—and it can always be obtained comparatively fresh and pure.

The preparation is rendered less disagreeable by adding to the mucilage of gum arabic, refined sugar, and a few drops of aromatic essential oil.

R. Mucil. Mimos. Nilot	℥ 3.
Ol. Vol. Pini Pur.	3 ii.
Sachar. Alb.	36.
Ol. Vol. Caryoph.	℥ 6.
Aquæ.	℥ 3.

Let the turpentine, oil of cloves and mucilage be well agitated and the water and sugar gradually added.

Spirits of Turpentine in Chronic affections of the digestive organs.

Since the invaluable writings of Messrs. Abernethy, Ayre, Hall and others, and more recently of Philip on Indigestion, the ancient mode of treating this sombre catalogue of diseases of a thousand names, with savoury food and brandy bitters under the insidious name of stomachics, has given place to a rational and successful practice.

Benevolence owes much to the labours of those gentlemen, and even cupidity may rejoice in the hope that the burthen of taxation will be lessened by the diminution of pauperism and crime.

In functional disorders of the digestive organs I have for some months used, in conjunction with mercurials, the spirit of turpentine in the same form in which I have prescribed it in diseases of the bowels. It supersedes, generally, the use of laxatives—promotes the secretions—determines particularly to the surface, than which nothing can be more important—and if it has not in some degree the effect of mercury, it seems to possess the power of perpetuating the peculiar action induced by it.

The subjoined cases of colica pictonum, in which the turpentine was successfully employed, were furnished me by a medical friend.

Mr H. after suffering some weeks from indisposition which he called rheumatism, the symptoms of which were—loss of appetite, lassitude, wandering pains over the whole body, pain in the lower extremities particularly aggravated at night, cold, dry and rough skin, and torpid bowels, was seized with violent pain in the umbilical region—rejection of every thing taken on the stomach, but without nausea—constipation of the bowels—pulse 55 and moderately full—the abdominal muscles permanently affected with spasm and extremely rigid.

Treatment.—Sub. m. hyd. pulv. ipecac. comp. and pil. aloet. comp. in large doses and at short intervals—Infus. sennæ. anesi. and sulph. magnes.—one full blood-letting—warm bathing—warm fomentations to the abdomen—stimulating enemata. The sub. m. hyd. was continued for 3 days when free ptyalism came on, and it was suspended. The other means were employed for two days longer and no evacuation from the bowels procured. After five days ordered ol. terebinth. and ol. ricini, equal parts—half an ounce to be given and repeated every 4 hours—in 18 hours produced two or three dejections—vomiting ceased and pain abated—Large doses of cathartics were found necessary to con-

tinued an open state of the bowels for four or five weeks when he suffered a second attack as obstinate as the first—but yielded at length to the daily use of ol. terebinth. alone. The functions of the stomach and bowels were gradually regained.

The wife and sister of Mr H. suffered from similar symptoms at the same time but they were milder and yielded readily to sub. m. hyd. opium and cathartics.

A child of Mr H.'s aged 4 years, died of the complaint at the end of five days. On dissection was found intus susceptio, at two places below the middle of the ileon, where were marks of considerable inflammation. The ileon and jejunum above the strictured part were contracted to a mere cord and very closely impacted in the left hypochondrium—neither their vessels nor those of the stomach were injected with blood.

The apple-sauce used in this family was kept in earthen pots, manufactured in this neighbourhood and glazed with a preparation of lead. Some of this sauce was washed with water and the water filtered. On adding sulphuric acid a copious ash-coloured precipitate was thrown down and this precipitate before the flame of a blowpipe directed upon charcoal produced a button of metallic lead.

J. S. aged 38, for many years a manufacturer of earthen ware, suffered from the same symptoms described in the case of Mr H. The only difference in the two cases was in duration. If, as it appears to me, it be allowable to divide this disease into two states or stages, a chronic and an acute, in the case of S. the former existed for years and the latter for many months. During his indisposition, the system was repeatedly under the influence of mercury, when the bowels were much more susceptible to the action of cathartics, but as ptyalism abated the disease returned.

The ol. terebinth. was employed and an immediate improvement of the disordered state of the bowels followed its use. It was discontinued and the complaint returned. Recourse was again had to it, and it was employed daily till health was established.

Northampton, 1823.

Case of diseased appearance in the Brain, resembling Hydatids.
By WILLIAM SWEETSER, M. D.

ON the 4th of August, 1822, I was requested to visit Mrs.—— aged 63. Her most prominent symptoms seemed to indicate disorder of the gastric organs. She complained of pain and uneasiness about their region—of costiveness, loss of appe-

tite, and inability to sleep. Her constitutional powers had of late failed her much—she was feeble, and indisposed either to mental or physical exertion. In addition to these symptoms there was an uneasy sensation in her head, augmented much by slight noises, or bodily motion, particularly riding. A gloom overspread her moral feelings. She had become unsocial, thoughtful, and was anxious to avoid all intercourse with her fellow beings. Still, on every subject, she retained entire possession of her reasoning faculties. The pulse were rather feeble, and a little less frequent than natural.

The following account was given me by her husband. About ten years ago her left eye began to fail—objects at first appeared to it confused and indistinct, and in a very short space of time, without any visible manifestation of disease, the sight entirely went away, and she has ever since been totally incapable of distinguishing objects with it. The pupil appears somewhat more dilated than natural, and has a dull, glassy look. With vision, her memory also began to fail, and the power of recalling before the mind past events—especially those of very recent date—has been in a very gradual manner, though perceptibly, failing ever since. At some periods her memory appeared better than at others, and she would not unfrequently recollect trifling circumstances, while she forgot such as were of much higher importance. Her head at times felt confused, and uncomfortable, and slight noises affected it unpleasantly. She would often say to her husband that she believed she should be crazy. The society of her friends and relatives afforded less pleasure to her than formerly—she was desirous of solitude, and disposed to thoughts of a melancholy cast. Her bodily powers, till of late, were but little prostrated, and her mind had all along continued rational; in fact, until I was called in to visit her, she had been able to manage her family concerns. A failure of late was noticed in her right eye, and she discerned objects much less distinctly with it than heretofore. Constipation had also been a very troublesome symptom to her for many years.

I at first produced free evacuations from the stomach and bowels, which were very foul, and continued for a little while to treat her with mild cathartics and mercurials, at the same time keeping a blister open at the back of her neck. She still, however, continued to grow worse, and her intellectual faculties were evidently becoming disordered. There appeared to be something like periodical excitement about her mind. I next bled her from the arm, and also directed leeches to be applied to her temples, but no good result followed from this practice. Dr Kittredge, a distinguished physician residing in the neigh-

bourhood, was now called in, and having critically examined the case, was decided in his opinion that the brain must be the primary source of her disorder. No remedy prescribed seemed to do any good. Her mind became more gloomy and distressed, and was fast verging to a state of complete insanity. She complained that wicked thoughts were constantly presenting themselves before her imagination, and that all her efforts to get rid of them were ineffectual—that she had sinned beyond the bounds of mercy, and was consequently abandoned by her Creator. Ideas of this nature, took such firm and exclusive possession of her mind, and her despair in consequence became so great, that at one time she actually attempted to destroy herself by forcing her garter, rolled up in the form of a ball, down her throat, and had nearly effected her intention when she was discovered. She now complained of great distress about her stomach and heart—was watchful, and at times quite raving. A small boil made its appearance on her back, near the scapula, which soon became an extensive sloughing ulcer—her strength wasted rapidly, and she died in extreme distress in about seven weeks from the time I first visited her.

On the day succeeding her death, in company with a few other medical gentlemen, I proceeded to examine the brain. The substance of this organ appeared of rather a firmer consistence than is common, even at the advanced age of this patient. In other respects, on an external view, it appeared perfectly healthy, nor in fact, could we discover any traces of disease in it until our dissection reached the plexus choroides. Connected with this organ were two clusters of bodies resembling hydatids, each extending into one of the inferior cornua of the lateral ventricles. These were extremely delicate in their texture, so that in their removal many became ruptured; they contained a fluid resembling that usually found in the ventricles of the brain. I did not count these vesicles—if I may so call them—but should judge that the number in each cluster would not have varied much from thirty. The largest were about the size of the common garden pea, others were much smaller. No other morbid alterations could be detected in the brain. Our examination proceeded no farther.

Remarks.—Though the name of hydatids has usually been given to the bodies we have described, they certainly differ in appearance from true hydatids. Dr Abercrombie, who has noticed these appearances in the brain, considers them to be merely the loose cellular texture of the plexus choroides elevated in-

to vesicles by watery effusion.* He observes, however, that real hydatids do seem to occur in the brain, and mentions a case from Zeder, in which a number were found, one particularly, the size of an egg, containing three smaller hydatids within it. There are also many cases recorded of cysts, containing a serous fluid, found in various parts of the brain.

Dr Baillie observes that little bags resembling hydatids sometimes adhere to the plexus choroides. These, he remarks, are commonly very small, but have been seen as large as a gooseberry.

A part of each of the clusters we have described, was formed on that portion of the plexus choroides which partly covers the thalami nervorum opticorum, and must have effected some compression on these eminences. Now the optic nerves do seem in part to take their rise from—or at least, to be connected with—the posterior portion of the optic thalami; it appears not improbable therefore, that pressure in the situation we have mentioned, might have exerted some influence upon these nerves, and been the occasion of the destruction of vision in one eye, and of the partial injury of it in the other. Had this woman lived much longer, I have no doubt she would have become totally blind, since the pupil of her right eye was for some time previous to her death much dilated, and had a dull lifeless appearance.

The disease we have been describing must have advanced very slowly, as we have good reason to believe that its existence had commenced at the period when vision and memory first began to fail, which happened about ten years previous to the death of the woman. Possibly, too, it might have made some progress before these effects were manifested, as on inquiry I learnt that for many years anterior to their occurrence, the subject of the case had been much afflicted with headach, which, perhaps, might have been somehow connected with the commencement of diseased action in the brain.

Until towards the termination of the disease no faculty of the mind became affected but the memory, the failure of which appeared to correspond in some degree with that of vision.† Why

* See, in the ninth volume, first number of this Journal, a paper on the Organic Diseases of the Brain. By John Abercrombie, M. D. Extracted from the Edinburgh Med. and Surg. Journal.

† Gall and Spurzheim who, as is well known, have located the different intellectual faculties and moral dispositions, place the organs of those faculties most nearly allied to memory—giving no special organ for memory itself—in the neighbourhood of the visual apparatus—for instance, they judge of the development of the organ of language by the prominence of the eyes. Possibly, therefore, the disciples of this doctrine, may find something in the case related adding in some small degree to its support.

this, and no other of the intellectual faculties should become affected, and why it should undergo so gradual, though manifest a failure for such a number of years—apparently in proportion to the increase of the disease—our present knowledge of the cerebral functions—of the relation which mind and matter bear to each other—is too confined to admit of any reasonable conjecture.

Sherburne, 12th Sept. 1823.

Case of Aneurism. By Dr JOSEPH LYMAN.

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DEACON Robert Wells aged sixty-five years, of Wells, in the District of Maine, about April 1804, perceived a swelling nearly the size of a hen's egg, near the middle of the left thigh and in the course of the femoral artery; at this time it gave him but little uneasiness. He recollects to have noticed a pulsation in the tumour about Nov. 1806, but more especially after any violent exercise. On the 30th Nov. 1807 he thought it expedient to consult me on his case. The tumour was now increased to about the size of a man's fist. I informed him and his friends at this time that it was in my opinion an aneurism, and of the great danger of his bleeding instantly to death if the integuments were injured. I was very sensible of a strong pulsation, which was perceptible both to the eye and touch. I inquired of him what he had done for it; he informed me that about the beginning of Sept. 1807, he applied a straight bandage, which he continued to wear for a few days which rendered it more uneasy, and caused it to swell. After this it would frequently swell for three or four days and then subside again, but always gained a little in every intumescence. The first of Jan. 1808 the tumour continually increasing, the pulsation became so strong as to be perceptible to the eye through his clothes. He again applied a straight bandage; the first day it seemed to support the tumour, producing an agreeable sensation, but the following day it swelled, became very painful, and he was obliged to remove the bandage. The pulsation in the tumour was never after this perceptible by him according to his recollection. The tumour increased in size for a few days after the removal of the bandage, and never afterwards subsided so fully as it had done before; notwithstanding the swelling did not subside he now began to grow much better and by the middle of January he could move the leg with much more ease and perform much more labour than he had done for

several months before, and so continued for several weeks. Sometime in the month of Jan. 1808 he perceived a coldness and numbness down the middle of the knee to the ankle and foot, but at this period these symptoms were greatly aggravated and continued until the operation, after which the coldness went off entirely, but a small degree of numbness still continues. On the 25th March the tumour inflamed and became painful; the pain and inflammation continued to increase in violence, becoming very excruciating till the 28th, when the pain subsided, and on the 29th, the top of the tumour for a space as large as a man's hand was covered with vesications. These in a few days discharged their watery contents and exposed the true skin black and mortified for a space as large as a dollar, which increased in size till the operation.

On the 6th of April 1808 in company with Doctors William Cutter, Lyman Spaulding, James H. Pierpont, Jacob Fisher, and James Dorrane, I visited Deacon Wells. The tumour was as large as a child's head, its top sphacelated, and its sides discoloured by the spreading of the sphacelus. On examination some of the gentlemen thought they discovered undulatory motion in the tumour, however none were confident that they perceived it, and they in general did not perceive any, but from the once evident pulsation, the site, colour and consistence of the tumour we were satisfied of its nature. The operation was agreed upon: on application of the tourniquet, the tumour was found to extend so high up into the groin as to give but just room sufficient for its application. Fearing the instrument might fail us we were provided with a large door key with the bow of which we intended to compress the inguinal artery should accident require it. Every preparation having been made to meet a profuse jet of blood and for instantly stopping it.—Dr Cutter commenced the operation by laying open the whole length of the tumour, (suppose about fifteen inches in length as the cicatrix since it has healed is nine inches) about two quarts of black grumous blood instantly rolled out; but to our astonishment not a particle of florid arterial blood appeared. The incision was continued down to the bottom of the sac, turned out all the clots, spunged it and we proceeded to loosen the tourniquet. The tourniquet was completely loosened by slow and gradual turns, but no jet of arterial blood appeared, and no pulsation was perceptible at the bottom of the wound. It appeared to us impossible (the patient not being faint) that an aneurism of the femoral artery could be opened without an immense loss of blood. Mr Wells was placed in bed with a light napkin only over the wound. Two opinions were advanced on this case, the one that a natural adhesive process

had taken place in the artery both above and below the sac; the other that a clot of blood had filled up the caliber of the artery which would be expelled when the circulation had acquired its accustomed strength. About one hour and an half after the operation, the patient was removed to his seat again, the tourniquet having been perfectly loose all this time, and opportunity given for the circulation to acquire its usual vigour. The wound was spunged anew but not a drop of arterial blood was to be seen. We now began to examine the inside of the sac with more care and attention than we had done before, and soon discovered that its internal coat had the same appearances, and was nothing more or less than the internal coat of the femoral artery. The tubes of the artery were soon discovered leading into and out of the tumour and a probe was passed with ease several inches into those parts of the artery but with moderate pressure could not be forced further. This was proof positive that the caliber of the artery had been closed both above and below the tumour by a natural adhesive process. A similar instance was not recollected. The bottom of the sac was in the natural bed of the artery; this and two thirds the way up the sides appeared to be a dilatation of the coats of the artery; the superior third had a much thinner cyst, from its diseased state, the sphacelus having extended to it. We were not able to determine that this was a continuation of the coats of the artery; or whether they had been ruptured, and this part of the cyst formed from the superior strata of the effused fluid. The wound was now dressed without a single ligature and the patient placed in bed. When the tumour was opened a singular substance appeared in the midst of the grumous blood but not in contact or connected, with any part of the cyst. It was about the size and shape of a man's open hand, the wrist part pointed to the superior orifice of the artery, the ends of the fingers to the inferior portion, the little finger laying nearest the bed of the artery, and the fore finger towards the surface of the tumour. This substance was of a light florid colour with longitudinal fibres of the consistence of boiled beef, and with the same ease as that might be shredded into fibres. This mass was probably made up of the blood converted into a fleshy substance by being driven through the aneurism.

The fifth day after the operation the dressings were removed, the discharge moderate, but it soon became profuse and extremely offensive. The 19th day of April, or thirteenth after the operation, that part of the tumour which had been discoloured together with some of the adjacent parts sloughed off leaving the lips of the wound five inches asunder, which were brought together in some measure by adhesive plaster. The discharge

now became more healthy and the limb was moved with more ease than before the operation. On Sunday the 24th day of April being the eighteenth day after the operation, I was called in great haste, a profuse hemorrhage having taken place from the wound; it had ceased before I arrived. Three pints of blood were supposed to have been lost. At the time of the operation it was noticed that the muscles appeared in some measure affected by the sphacelus, at this time it appeared satisfactorily evident to me that the hemorrhage issued from a vessel that had been ruptured by a separation of the diseased muscular substance from the sound parts. The debility induced by this hemorrhage was very great; two days after there was another slight hemorrhage from another place from a similar cause. After this the wound healed kindly and by eighty days after the operation or June 25th the cicatrix was completed, and his former health and vigour in some measure established. At this time, Sept. 1808, he observes that his general health is better than it has been for many years past.

On reviewing this case two very singular circumstances present themselves, the fleshy mass in the coagulated blood; and the obliteration of the caliber of the artery, whereby a natural cure of the aneurism took place. That there was a natural obliteration of the caliber of the femoral artery both above and below the aneurism does not admit of a doubt, for the probe was repeatedly passed into the artery from the aneurismal sac, and we could plainly discover, both above and below the tumour, the cavity of the artery terminating in a cone beyond which the point of the probe could not be forced. The obliteration of vessels and the destruction of parts are not unusual processes in the animal economy when the original use of the organ ceases. Thus after the birth of the foetus the ductus arteriosus and umbilical vessels are no longer of use, therefore their cavities are obliterated and they become mere ligaments. In this case, the circulation through the aneurismal tumour, was impeded probably by the growth of the fleshy mass, and the blood was compelled to seek some other route. The collateral arteries by a principle in the animal economy which has been well established, were enlarged and anastomosed in direct proportion with the obstruction of the main artery; and no doubt the caliber of this artery gradually accommodated itself to the quantity of blood sent through it. The obstruction was therefore increasing, the collateral branches enlarging, and anastomosing while the circulation through the tumour was diminishing and the bore of the artery contracting. This process was gradually carried on till the obstruction was complete; the anastomosing branches were so enlarged as to

convey all the blood sent to the limb, and then the sides of the main artery adhered by a natural process; a new circulation having been established much in the same manner as takes place after an operation for aneurism. This at first sight may appear to hold good as it respects the artery above the aneurism only, but if it be closed there what shall keep it open below? The precise time when this process commenced or terminated is not at all material for establishing any physiological fact relative to the case. An important change appears to have taken place the 5th January 1808 when the bandage was applied the second time; the tumour increased rapidly in size, the pulsation became extinct and the coldness and numbness were much more considerable than at any time before. We should suppose that at this time there was a rupture of some of the coats of the artery, and that the new circulation was formed, as the coldness and numbness after this began to abate, and since the operation have principally subsided.

Wells, York Co. Maine.

Cases of Spotted Fever. By HENRY B. C. GREEN, M.D.

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ON Sunday evening, February 2d. I was requested to visit Charles, a son of Mr. P——, aged seven years; his father, who called me, stated that he had fallen down and hurt himself, he feared, seriously. When I arrived I found him lying on a bed by the fire, in a sleepy state, but on questioning him he answered me pretty regularly with regard to his feelings, and the supposed cause of them. He was perfectly well until towards evening, when he came in and said he had fallen down over a stick of wood, or rather that he stepped upon a stick, which rolled and projected him forcibly on the ground; he said 'it hurt his arm the most, but made his head ache very much.' This account he gave his mother on his first complaining, and repeated to me on enquiry of him.

He was much averse to being moved, and begged of me not 'to hurt him' for his arm was very sore. But as no bruise or swelling was apparent, I contented myself with prescribing some camphorated spirit for the arm, and a cathartic of jalap and calomel, concluding the fall might have produced the headache by the concussion it gave, and expecting he would be better by morning. But as I still thought his appearance a little unusual, I

directed his parents to call me in the morning should he appear no better.

The next day, (February 3d) about two o'clock, P. M. his father came in great haste, saying, he believed his child was dying, and urged me to hasten to him. Being at that moment in company with Dr Shannon, he was requested to accompany me. We found him senseless; his skin exhibiting the appearance of variegated marble; the pupil of his eyes largely dilated, and no pulse discoverable. He had passed a tolerably comfortable night, and the cathartic had operated well. We repeated the enquiry if he was well previous to his fall, and were assured he was, and had always been a very healthy child. We were not a little staggered in endeavouring to account for these circumstances entirely novel to us both; but were agreed that the only indication was to rouse him from this state of insensibility, and restore the circulation, which proved no easy task. Ether was poured down his throat, stimulating frictions applied to his extremities, and a blister raised upon the back of his neck by means of scalding water. A vein was opened after a few minutes, more with a view of discovering if the circulation had entirely stopped than with any expectation of relief. About an ounce of blood slowly trickled away, and the arm was tied up.

Persevering in the use of these means about an hour, he revived; the circulation returned, the frightful discoloration of the skin disappeared, and he seemed comfortable. We now left him.

About 7 P. M. I visited him, found him comfortable. Still complained of headache and soreness of the flesh—skin dry—pulse about 90.—Directed sinapisms to the feet, and pulv. ipecac. 2 grs. sub. mur. hydr. 1 gr.—and left him. About midnight, I was called up to visit him, and found him in a more deplorable state of suffering than can be described, and by those unaccustomed to the sight of diseases in their most distressing form, hardly to be imagined. His appearance was that of one in the paroxysm of hydrophobia. He was restless in the extreme, tossing about and leaping from the bed in spite of the exertions of three women in attendance, screaming and begging of his father, (who was not by at the time,) not to 'hurt him so'—his reason was entirely gone, and his only reply to any question was, 'oh, don't ye, don't ye'—his pupils were still largely dilated; his eyes wild and wider open, his skin hot and dry, and his pulse quick and full. To add to the horror of his appearance—his arm had begun to bleed, and it being impossible to catch the blood it had covered his shirt, flowed about the bed, &c. I should judge he might have lost from eight to ten ounces.

However, I stopped the bleeding, put on a dry shirt, and forcibly detained him in bed; and concluding something must be done, and hardly knowing what else to do, with any prospect of relief, I gave him 35 drops tinct. opii, determining to repeat the dose, if no abatement of the symptoms took place, feeling pretty secure that no additional excitement could be produced, it being already as high as I conceived it possible to be raised. This was given about half past twelve o'clock, and much beyond my expectation, he immediately grew calm, and by one o'clock was in a sweet sleep—I then left him.

Next morning, (February 4th), I visited him, he had slept comfortably all night, and was still inclined to sleep, but answered questions rationally. Pulse about 90, headache continues, no evacuation from the bowels since yesterday morning, skin hot and dry.

Let him have—

Pulv. Ipecac. 2 grains,

Sub mur. Hydr. 1 grain,

every three hours—Spt. Nitre, a teaspoonful, every two hours, and an enema, should no evacuation take place by noon.

About 7 o'clock this morning, Albert, another child of the same family, aged five years, was complaining. At the time I called, (about 8 o'clock), he looked very sick, there was a peculiar bad expression in his countenance, of which I can convey no idea by description.

He told the same story about falling over a stick, in the *same* place that his brother described, and related the same circumstances, save that he said his sister pushed him over, and 'struck his head and made it ache.' He could not tell when this was done, and his mother said he had not been out of the house since yesterday afternoon. I now began to conclude there was no 'stick of wood' in the case.

He was affected a little differently from his brother, inasmuch as he did not complain of soreness of the flesh, was very sick at the stomach, and complained that the pain in the head was directly over his eyes. The pupils of his eyes were dilated very much, as in Charles' case, his skin was pale and cold, and his pulse weak and low—his tongue was not furred. I gave him an emetic of Ipecac. directed his feet to be immersed in hot water, and then to place him in bed and endeavour to sweat him. I was now satisfied that something more than usual affected these children, but was unable to resolve what it was. I returned to them about three o'clock, P.M.—Charles was much as he was in the morning; had an evacuation from the bowels about eleven o'clock, and had slept the greater part of the time.

Albert was evidently worse—his appearance was but little altered, except that he looked more wan and deadly than in the morning, and seemed plainly to be sinking. His emetic had operated to bring off considerable green coloured gelatinous substance—he had remained otherwise much as he was when I left him, being unwilling to be moved, and not complaining much. Attempts to warm his skin and produce perspiration had not succeeded. Perceiving him to be in a dangerous state, and seeing nothing to be done but to attempt to rouse him from this state of inaction, the same stimulants, and remedies were made use of, as were applied in Charles' case, except that no attempts were made to raise a blister by scalding. But every effort proved unavailing, he grew stupid, cold, his pulse intermitted, finally stopped, and he expired without a struggle about half past four o'clock, P.M.

A few minutes before his death he became in some places spotted, and after his death he became so all over his body, and from being cold, his flesh was much warmer than it had been since his attack. From due consideration of all the circumstances attending this child's death, and his appearance afterward, I was now well convinced of what before I had scarcely suspected, viz. that the disease was *Spotted Fever*.

Not without much apprehension that more of the family would be attacked soon, I left the house and returned about 7 o'clock, P.M. Charles was much the same as he was in the morning, except that some signs of restlessness began to appear,—he would take no nourishment of any kind, and took nothing but a little water occasionally.

Directed tinct. opii, 30 drops—to be repeated if the restlessness should increase, and put a hot brick wrapped in flannel wrung in vinegar to his feet which were a little cold.

February 5th, 5 o'clock, A.M. was called to see Harriet, another child in the same family, aged three years. She went to bed as well as usual, but about midnight she awaked the woman with whom she slept, complaining that her head ached. She was taken up, and some simple remedy administered, when she became more comfortable and again went to sleep. But she waked soon after and complained of her head, sickness at the stomach, &c.

She now has the same death-like expression that Albert exhibited, the pupil of the eyes dilated, the skin cold, and shrunk, the pulse weak and languid; there is great sickness at the stomach, or rather every thing taken into it, is soon rejected mixed with the same gelatinous substance mentioned in Albert's case. She is rational, and only complains of her head's aching, 'right

over her eyes.' She had an evacuation from the bowels the last evening, of the usual healthy appearance. I attempted by the use of various stimulants, (as æther, tinct. opii. &c.) to overcome the vomiting without effect. I continued the use of these, with friction on the skin with stimulating substances, until about 7 o'clock, A. M. when I was obliged by other engagements to leave the house, directing that heat should be applied, and sinapisms to the feet, in order if possible to bring on a reaction in the system, but was apprehensive that our efforts would prove unavailing.

Charles was much as he was last evening, had slept well, head ache continues, great unwillingness to be moved and great soreness of the flesh—skin cool, pulse about 90. Directed

Pulv. Ipecac. 2 grs. }

Sub mur. Hydr. 1 gr. }

every four hours, and a blister to the shoulder. Half past 10 A. M. I again visited this distressed house, and found the little girl much as she was when I left her except that she was growing more stupid. I now commenced rubbing strong tincture of cantharides upon her extremities and requested Dr Shannon might be called in, and he came in soon after. The friction with the flies was continued about half an hour, and produced no effect upon the child although the fingers of the attendants were made sore in the application. Dr S. recommended the warm bath, which was applied, but every effort, proved unavailing, and she expired about noon.

3 o'clock, P. M. Mehitable, another child of the same family aged nine years, on returning from the funeral of Albert, was taken with a violent head-ache; her pulse is natural, her skin cold, the pupils of her eyes largely dilated, the head-ache is confined to the forehead directly over the eyes, the expression of her countenance is not alarming. She was put to bed, a vessel of hot water placed at her feet and heated bricks wrapped in flannel moistened in vinegar placed round her. Camphorated spirit was given freely and a cathartic of jalap and calomel. By these means, perspiration was induced and she was relieved; she recovered in a few days without any further trouble.

5 o'clock, P. M. Mrs P—— the mother of the children was taken—She had complained all the afternoon (the attendants said) of a violent pain in one of her finger joints. She is now highly delirious, does not recognize her husband, nor any one else, it requires three or four men to hold her in bed; the expression of her countenance is horrible; her eyes strained open, the pupils dilated, and the face pale and haggard. The pulse is almost natural, a very little excitement is perceptible in it, but not so much as we should expect from the violence of her

exertions. She complains of her head and especially of her finger, crying out, 'oh my finger, my finger!' and screaming for relief. Dr S. arrived a few moments before me, and raised a blister upon the neck by means of boiling water, but no perceptible relief followed. Blisters were immediately applied to the legs and arms, large doses of laudanum were given, and the most energetic means used to produce sweating, were put in practice. The best of which (as respects external application) we found to be small blocks of green spruce wood, about three or four inches in diameter and twelve in length, boiled in water, wrapped in flannel and placed round the patient, and renewed as they became cool—Together with these exertions externally, stimulants of various kinds were given, but the stomach would not readily retain any thing, the same involuntary action of the stomach (if I may so express it,) noticed in Harriet's case was observed here, and every thing in a short time after being swallowed was rejected mixed with the greenish substance already noticed. Laudanum was the longest retained of any thing, and was more frequently given. After persevering in this method two or three hours, the blisters began to draw, and she began to perspire, and finally dropped asleep.

Charles this evening appeared rather better, he has taken water gruel frequently and appears sensible in his answers but is still disposed to sleep and complains greatly on being moved—pulse is about 95, an enema brought away a dark stool mixed with a large quantity of a greenish *flaky* substance, and one large worm. Directed the powders to be continued, and valerian in decoction to be given freely.

Feb. 6th, 7 o'clock, A. M. Mrs P—— passed a tolerable night. Puking continues at times, most of what is taken being thrown up, together with the same substance before mentioned, no evacuation from the bowels, skin pale, countenance sunk, pulse little above 90, is in possession of her senses at times, and when delirious does not rave as she did the evening before; complains much of her head—the blisters have drawn well. Directed the blocks to be continued as before, and a cathartic of calomel and jalap. (this she threw up.) Æther, valerian, camphorated spirit, and laudanum to be alternated as they best agreed with the stomach.

Charles this morning appears very little different from last night, except that he makes more complaint of his head—passed a comfortable night. Directed a cathartic of calomel and jalap.

2 o'clock, P. M. Mrs P—— worse, she has puked up every thing she has taken during the forenoon, no evacuation from the bowels—she has lost her senses entirely, reclines on the bed.

her head and shoulders much raised, and stares, without appearing at all conscious of surrounding objects—her skin is cold and shrunk, pulse about 80—no reaction has taken place since her first attack. Believing she would soon sink like Albert and Harriet if no reaction could be produced, and being determined to dispute every inch of ground with our great natural enemy, I gave a tea-spoonful of laudanum, and half the quantity of oil of peppermint. This she kept down, in half an hour no alteration happening in her appearance, the same dose was repeated—this was also retained, and in one hour more it was again repeated. I now left her, directing one half the dose just mentioned to be given every half hour until my return.

8 o'clock, P. M. She appears rather better yet the worst symptoms remain much as they were. She is a little more conscious of what is about her, but is still cold, pale, and ghastly. Let her have a stimulating enema, and give the last mentioned dose in one ounce of camphorated spirit every half hour, until a reaction takes place—Then if the skin should be hot, lay aside the stimulants. Charles remains much as in the morning—the cathartic operated and brought away large quantities of the greenish substance noticed before. Directed the powders of ipecac. 2 grs. and calomel 1 gr. to be given every four hours during the night, and to relieve the extreme soreness of the flesh, directed his limbs to be washed in warm soap suds.

Feb. 7th—8 o'clock, A. M. Mrs P—— very differently situated from yesterday morning. Her puking has ceased, the enema brought away a stool rather dark. Her skin is now hot, and her pulse about 100, complains of her head very much.

Directed a cathartic of calomel and jalap, and

Spt. Nitre	3 i	} every half hour.
Decoc. Valerian.	3 ij	

Charles is quite comfortable, but still complains of extreme soreness and is much averse to being moved—pulse 90—still takes gruel. Directed his powders as last evening.

12 o'clock—Mrs P——'s fever is now very high, pulse over 100, skin very hot, head ache extreme, is still in possession of her faculties in some measure, and cries out that if her head is not relieved she shall be distracted. Administered the Spt. Nitre freely and placed a bladder half filled with pounded ice mixed with a little water upon her head. This gave much relief, and was renewed as often as the ice became melted by the great heat of the head.

8 o'clock, P. M. The excitement in Mrs P—— not so high, but the head ache continues to be distressing, and she now complains of great pain and soreness all over the body—the cathartic

has operated twice, the dejections were dark coloured and offensive, pulse not so quick, and the skin cooler, has taken no nourishment since her attack, appears very restless and uneasy—Directed tinct. opii, 70 drops, to be repeated in one hour if the restlessness should continue.

Charles has remained pretty comfortable, has taken gruel, &c. but inclines to lie still, and rather stupid—continue with him as last evening.

Feb. 8th. Mrs P—— rested pretty well after taking the third dose of laudanum, previous to that she was very restless indeed. Her skin is now cool, pulse below 100, and she appears languid, still refuses every thing like nourishment, and never asks for any thing except something to relieve her head. Directed pulv. ipecac. 2 grs; opium, 1 gr; and camphor 2 grs every four hours.

Charles seems stupid, but still takes nourishment, and answers questions rationally—he lies in one position, and makes much complaint if he is moved from it—has had no evacuation since night before last. Directed him a cathartic, and his limbs to be washed in warm suds, as before.

Evening—Mrs P—— has been very languid all day, but is now very restless, and complains much of her head, and soreness of her flesh and limbs—her skin is growing hot, and pulse is about 100. Discontinue the powders and substitute the spt. nitre and decoct. valer. as before; and if the restlessness increases, give the laudanum as last evening.

Charles is no better, his cathartic operated twice, and brought away considerable offensive matter. He has lain very stupid all day, but has taken gruel when offered him. Directed tinct. opii camph. 60 drops: spt. nitr. 3i: in two ounces decoct. valerian.

Feb. 9th. Mrs P—— had a very restless night; her skin was hot; head-ache very severe and delirium high. She had two dejections from the bowels which were very offensive, as is her water. She obtained no relief until near morning, when a large dose of laudanum produced some degree of quiet. Her skin is now cool, pulse does not quite reach 100—complains of weakness and languor, and insists she has not slept any since she was sick, and begs for something to procure sleep. The blisters on the legs have nearly dried up. Directed the blisters to the legs to be removed, and the same powders prescribed yesterday to be taken every four hours to-day.

Charles is worse, he is now delirious, refuses to take any thing and exclaims loudly on being moved. The eyes were turned in towards the nose, and the pupils dilated. Pulse 120—for the most part he lies stupid; very little hope of him remains. Di-

rected however, that he should take the spt. nitre. in decoct. valerian frequently during the day.

8 o'clock, P. M. Mrs P—— has been more comfortable to-day. She slept some in the afternoon but is not sensible of it, complains of want of sleep and great distress of her head, and soreness of the flesh. She has had two or three evacuations from the bowels which are very black and offensive. Still refuses nourishment of any kind. Her skin is warm and pulse 100. Directed pulv. ipecac. 2 grs. every three hours, and spt. nitre in decoct. valer. should she be hot and restless, and laudanum should the restlessness be extreme.

Charles is the same as he was in the morning, has had no evacuation from the bowels to-day, and has lain stupid most of the time. Directed him an enema.

Feb. 10th, morning. Mrs P—— rested better than the night before, but required one dose of laudanum; her skin is moderately cool, pulse 90, complains of her head a great deal yet. This morning she has taken some gruel. Directed pulv. ipecac. 2 grs every four hours.

Charles is growing worse, he lay stupid nearly all night, his enema brought away considerable offensive matter; his pulse are 120, his eyes still turned in and the pupils dilated very much, he lingered until nearly sunset, when he expired.

8 o'clock, P. M. Mrs P—— complains very much, but most of her symptoms are more favourable. The evacuations from the bowels still offensive; she insists still that she has had no sleep, and begs that something may be given her to produce it. Let her have a dose of laudanum if she cannot rest without it, and give decoction of valerian freely.

Feb. 11th. Mrs P—— rested comfortably after taking 60 drops of laudanum, and appears comfortable—pulse about 90, and every symptom more favourable. Her eyes this morning we observed to be crossed, and she complains of great weakness in one of them.

From this time she began to recover, but her convalescence was extremely slow, and it was a long time before she recovered the use of her limbs. Her eyes continue permanently crossed, and one of them is very weak. In short her whole appearance plainly indicated her having undergone a most terrible disease, and although her constitution survived it, yet it was shaken to its very foundation.

Only one other well marked case of spotted fever occurred in this vicinity during the season, this was on the 17th of February. A young man aged twenty-four, when he went to bed the evening before, complained of a violent pain in his ankle, he however

passed the night alone and died about 9 o'clock the next morning. No medical assistance was rendered until a very short time before his death. I saw him about twenty minutes before he expired, he was then spotted all over his body, and apparently dying. The spots varied in size from the circumference of a pea to that of a cent; and in colour, from a blood red to a dark purple.

Saco, April 1, 1823.

Cases with Remarks. By Dr JOHN E. MARSHALL.

[Communicated for the New-England Journal of Medicine and Surgery.]

IN May, 1821, I was called to attend a married lady of healthy constitution and laborious habits. She had previously had several children, and about a year anterior to this time had suffered an abortion. Her complaints, now, were a constant inclination to void urine, accompanied with great pain and difficulty in passing even the smallest quantity. These symptoms had existed in some degree for several days, but were now worse and more distressing than at any time before. The system was affected with considerable increased arterial action, there was a flushed countenance, costiveness and thirst.

I prescribed bleeding and a cathartic, to be accompanied with the use of mucilaginous drink, and after the operation antimonials were to be administered in such quantity as to excite nausea at the stomach. By this mode of practice some relief was obtained, but the symptoms returned, and became greatly aggravated, during the second night after my first visit. In the morning I found that no urine had been discharged for the last twelve hours, the bladder was very much distended, and the patient had been restless and much afflicted with pain during the night. At this time the effort to make water was frequent and distressing, accompanied with severe bearing down pains, and a nervous spasmodic state, which was alarming to the patient and her friends. Under these circumstances I found it necessary to possess myself more fully of the causes and nature of this case; I then ascertained that the woman had for some time previous supposed herself pregnant, and if such was the case it must be of about twelve weeks standing; she had enjoyed as good health as usual, under such circumstances, up to the time of the present indisposition, but that immediately previous to this she had exerted herself by walking very fast for a considerable distance, for the purpose of obtaining shelter from a thunder storm; the approach of which had excited considerable alarm, as she was likely to be overtaken by it at a distance remote from any dwelling. Her sickness

commenced soon after this fatigue, and had been increasing to the present time. This statement connected with the symptoms of the case led me to suppose that the uterus was actually in a state of pregnancy and had become *retroverted*, that by its increased length and size it filled the cavity of the pelvis and obstructed the passage of urine through the urethra. An examination per vaginam confirmed me in this belief. I found the os uteri high up, under or behind the symphysis pubis, and the posterior part of the pelvis filled with a hard round substance which was manifestly the fundus of the womb, resting in the hollow of the sacrum. The parts were hot, irritable and somewhat swollen, accompanied by a hard full pulse, and some evidences of local inflammation. I immediately bled the patient freely from the arm and introduced the catheter. After emptying the bladder, which was done without difficulty, the pain abated, the tension of the abdomen (which was before quite large and hard) diminished, and relief was obtained in a very considerable degree. This was the third day of my attendance. As soon as circumstances would permit I attempted, by mechanical means, to replace the womb in its natural situation, but all the manual assistance which I could give was insufficient to raise it, without the exertion of more force than I judged prudent to employ. From this time the symptoms were less urgent, but the inflammatory state continued for several days, and made it necessary to repeat the bleeding once or twice more. The bowels were kept open with saline cathartics and injections, and the catheter was introduced twice or three times in twenty-four hours for the three following days. The medicines administered were of the antiphlogistic kind, diluent and mucilaginous. I made frequent attempts to assist the ascent of the fundus of the uterus but the parts continued tender, and nothing could be done sufficient to effect that object.

After three or four days my patient gradually got better, the pain abated, the power of discharging urine was restored and the appetite and sleep became regular and natural. As the pregnancy advanced and the uterus increased in size—it was in proper time disengaged from the pelvis without any further assistance and the difficulty which its retroversion had occasioned was wholly removed. Gestation continued uninterrupted, health was restored and the woman from that time attended to her domestic concerns as usual. No injury was sustained by the child, and delivery took place without any unfavourable occurrence.

I have no doubt this was a decided case of *Retroverted Uterus*. It probably took place about the twelfth week of pregnancy, and was produced by the unusual exertion of walking, ad-

ded to the alarm and anxiety occasioned by the circumstances above related. It was nearly or quite a week, from the first appearance of the symptoms of this disease, before it arrived to such a height as entirely to obstruct the discharge of water. This might be owing to the circumstance that the size of the womb when first retroverted was not sufficient to occupy the whole of the conjugate diameter of the pelvis, but as pregnancy advanced and it increased in length it began to press with more force upon the urethra and rectum, producing thereby a difficulty in the passage of both fœces and urine. These difficulties were likewise calculated to increase the original disease, first the accumulated fœces by pressing upon the fundus of the uterus, and confining it in the hollow of the sacrum; and secondly the distended bladder necessarily rising in the pelvis as it became filled with urine, by reason of its connexions with the womb, must have the effect to draw up the neck of that viscus, and confine the urethra between it and the pubis, thereby producing a total and entire obstruction, whenever the pressure come to be applied with sufficient force.

CASE II.

Mrs. M. was taken in labour on the 18th day of February, 1822, in the morning. Pains were considerably severe, she was attended by a midwife, and was bled by some person in the fore part of the day. Towards evening her friends became alarmed. I was sent for and arrived in the night, it being a distance of twelve miles. I found the patient to be a young married woman. This was her first pregnancy, and she had enjoyed good health to the time of being taken in labour. She had now but little pain, though her attendants informed me her pains had been more violent previous to my arrival, and that they had several times expected she would be delivered before I could get there. She had puked a good deal through the day, but had not complained of much sickness at the stomach. On examination I found that the membranes were not broken, and that the child had not entered the pelvis. The mouth of the uterus was so far dilated as to enable me to discover that the head of the child was the most depending part. The pains occurred once in twenty or thirty minutes, not severe; and a sound sleep was enjoyed between each pain. There was at this time no increased arterial action, heat or thirst. This state continued several hours without any alteration, the pains at length became more frequent and more severe, and began to operate on the contents of the womb. The head of the child entered the pelvis, the membranes broke and I expected a speedy delivery. In this situation the woman was instantaneously seized with a severe epileptic convulsion, with.

out any previous indication or warning whatever. The pains ceased entirely, I immediately opened a vein in the arm and took one quart of blood from a large orifice. This produced an alleviation of the convulsed state, but did not restore sense and consciousness; the spasms relaxed in some degree, the pains again showed themselves but were light and not sufficient to produce delivery. In a few minutes she was taken with another convulsion which lasted until I had drawn a pint more of blood from the arm, when she again partially recovered. As soon as I was able to make examination I found that the head of the child had advanced into the pelvis, so that I could act upon it with instruments and therefore determined to deliver without delay. I made use of the forceps, and introduced one blade for the purpose of ascertaining what effect it would have used as a lever. By operating gently upon the head of the child with this, pains were excited. These were at first feeble. I was however encouraged to go on and by acting and resting alternately in the use of the instrument, soon established regular pains, and the head of the child passed the outlet of the pelvis, without further difficulty, and without using the other blade of the forceps. The child when born was apparently dead, so much so as to possess no muscular contraction in any part. There being no pulsation in the umbilical cord it was immediately divided, and the child immersed in warm water, after sometime it began to show signs of life and gradually recovered animation. My attention was particularly directed to the care of the woman who was yet lying in an insensible state, and under circumstances of great anxiety and alarm to her friends. Upon examination of the abdomen and uterus I found that there was another child. The placenta had not yet come away and I did not therefore make any exertion to deliver it. The presentation could be discovered and was natural, but there appeared to be no disposition in the womb to expel its contents. During this time so much blood had been lost from the uterus that I did not take any more from a vein although my patient remained in a perfectly comatose state. I waited for some minutes in expectation of a return of pains, and to occupy the time directed vinegar moderately cold to be applied to the abdomen accompanied with light friction made by the hand. A few light pains at length occurred and were soon assisted by some voluntary efforts of the woman. The head of the child advanced slowly in the pelvis, and as soon as it was practicable I applied both blades of the forceps to the head of this last child, and by assisting the natural efforts which were very feeble, and operating at intervals of ten or fifteen minutes, I soon completed the delivery. The child was very small and would not have prevented immediate delivery by

the instruments if that had been desirable. My object in encouraging a slow delivery was that the womb in its present inactive state might have a greater opportunity to contract upon the body and lower extremities of the child, and thereby obviate the danger of an inversion or subsequent hemorrhage. No placenta came away until after the delivery of both children, and then but one placenta to which both cords were attached. This placenta taken as a whole was small, not as large as I have frequently seen where there was but one child—the cords were inserted about four inches apart. The child last delivered was entirely destitute of life and from appearances had been so for some time—it was so small and so evidently dead, that no attempts were made to restore it. After the labour was completed, the womb contracted favorably, and the mother was put into bed entirely unconscious however of any thing that had transpired since she was seized with the first convulsion. She remained in a comatose insensible state for six or eight hours and was not wholly free from it until twelve hours had expired. From this time she recovered as fast as under ordinary circumstances, was able to perform the office of nurse, and both mother and child did well.

It may well be a subject of enquiry, what were the causes that produced the convulsions in this case? I could discover no premonitory symptoms, nor have I been able since to recollect any thing in the appearance of the woman, or any previous indication, which would have led me to suppose that convulsions were threatened. I think it was not the size of the children, either singly or collectively, for they were both small, and there did not at any time appear to be much mechanical obstruction to delivery, arising from a disproportion between the size of the passages, and the parts that were to pass through them. Some of the pains during this labour were more sharp and piercing than usual, the woman complained that the pains hurt her severely, but did not point out any particular place where they had this effect.

Might not the relative situation of the children have been unfavourable to the contraction of the womb? Nothing of this kind was to be detected by the presentations, but possibly might have existed with regard to the bodies or extremities. The contractions of the womb, and its effects in forwarding the labour, were not as great as was to be expected from the apparent severity of the pains.

CASE III.

Mrs. ——— a married lady, was suddenly taken with a violent flooding on the night of the third of October, 1821. The dis-

charge was exceedingly profuse and immediately produced fainting, to such a degree that she was unable to rise from a horizontal position. I was called early in the morning and found her faint, weak and unable to make any exertion. I was informed that the discharge at one time was so profuse that it passed from her in a continued stream, to the amount of several quarts, which was known by its being preserved in a vessel which was used for that purpose. The pulse was now extremely feeble and hardly to be perceived, she was troubled with great faintness, the extremities were cold, the lips pale and bleached, and the hemorrhage still continuing. I could not at this moment ascertain whether she had been pregnant or not, or whether any thing like a conception had been discovered. A great many clots had been observed, and many cloths had been removed from her, several sheets were shown to me drenched with blood. It was evident that something must be done immediately to prevent the woman from dying, and I durst not wait in this emergency for the slow and uncertain operation of astringent medicines upon the stomach. She was therefore placed in an easy horizontal position, the foot of the bedstead raised upon blocks, as high as she could bear, a small anodyne was administered and having procured some soft cloths dipped in oil, I filled the vagina, with as much expedition as circumstances would permit, and stopped the discharge of blood externally entirely. A death-like faintness and sickness at the stomach had been present all the morning. I now directed that the patient be kept entirely still and quiet, that she take occasionally a spoonful of weak wine and water, that there should be no noise about the bed or in the room, and that she should not be suffered to make any exertion. Cold vinegar was applied to the abdomen, and external parts, and frequently repeated. It was necessary to make free use of spts. camphor, aqua ammoniæ and vinegar about the face and head, to prevent fainting. After a few hours, of as much quiet as could well be observed, the pulse began to be more apparent, and the faintness subsided so much, as to permit the patient to get some partial rest, which the continued death-like feeling had before entirely prevented. The sickness at the stomach having subsided some astringent medicine was administered and weak broth was given for nourishment both of which were to be continued until otherwise directed. An examination of the cloths, which I had not until this time had an opportunity of making, convinced me that the woman had been pregnant and had suffered a miscarriage. I did not find any entire sac, neither could I recognize any thing that might positively be considered the body of a foetus, but among the cloths and clots were

found evident appearances of membranes and placenta. I afterwards was informed by the patient, that she had supposed herself to be pregnant for about eight or ten weeks before this sickness took place. In twelve hours from the time I plugged the vagina, the hemorrhage appearing to have stopped, and some animation being restored to the countenance, I suffered the bed clothes which were wet, hard and uncomfortable, to be carefully removed, and the woman placed upon others, which were dry and clean. The astringent medicines, the broth and a little wine and water were continued. Some rest was obtained during the night and the next day she was much more comfortable. At the expiration of twenty-four hours, I removed the cloths from the vagina, no bleeding took place afterwards sufficient to excite alarm, and no diseased state remained, except great debility and loss of strength, which continued for several weeks and was gradually remedied by tonic medicines and a restorative diet. Some œdematous appearances took place after a few days, but were principally confined to the lower extremities and disappeared upon the return of strength and the use of proper exercise.

How far in this case astringents taken into the stomach, and local applications in a liquid form might have been successful, it is impossible to determine. The stomach, as is usually the case under such circumstances, was capable of receiving but a very small quantity of any medicine, without producing sickness and vomiting, which the patient in her present exhausted state, was wholly unable to bear. Injections would probably have been washed from the uterus and vagina, for some time, before they would have permanently constricted the mouths of the bleeding vessels, and might at last have been ineffectual. External applications were used freely, of as cold a temperature as could be procured. The urgency of this case seemed to require every exertion, and I think in all extreme cases of uterine hemorrhage, of this and similar kinds, where other means do not readily take effect, or where we have not time to employ them, this most powerful means should be resorted to without reluctance.

Buffaloe, (Erie co. New-York,) Nov. 1823.

Case of Tetanus. By JOHN PHILLIPS, M.D.

[Communicated for the New-England Journal of Medicine and Surgery.]

ABOUT a year since, I was called to visit Mr L. P. about thirty years of age : he was of a nervous temperament, and very susceptible of impressions from medicines, and external objects

in general ; though an industrious farmer. About two years before, I was called to visit him ; at which time he had a tetanic affection from a wound on the patella, with an axe, which opened the bursa or synovial sack, which contains the patella. He called upon me soon after the accident. I applied a simple dressing ; and charged him to be very careful not to expose himself so as to excite inflammation in the wound. This counsel, however, by accident or inattention, was not properly regarded, and tetanus was the consequence. I saw him once, about four or five days after I had dressed the wound. He had exposed himself to a shower ; the evening air, or in some other way ; which I do not now particularly recollect : but a high degree of pain and swelling in the wounded part, and great constitutional sympathy were the consequences, when I visited him. When I saw him, he was perfectly insensible of my being present, as also to all about him. His pulse was small and tremulous. He said nothing ; and appeared to take no notice of any thing when spoken to. I conceived he was in a state of indirect debility ; and ordered a strong decoction of chamomile ; to which I added an ounce of the tincture of opium, to be applied as a bath, by wringing flannels out of it of sufficient size to cover the affected knee both above and below the joint, as far as the inflammation extended, as hot as the attendants could handle them ; and proceeded, in the mean time, to let blood. He resisted the operation : I succeeded, however, in the attempt, and obtained, as I had wished, a full bleeding, from a large orifice ; which brought him immediately to his senses ; and relieved the depressed state of the circulation. The hot bath above directed, was repeated until the pain subsided, and he seemed quite relieved. I was called the next day from home ; and he was put under the care of another physician ; who informed me that tetanus came on the next day after I saw him. I saw him no more until he recovered.

When I was last called to visit him, [in a subsequent sickness,] tetanus had already taken place. I was informed that he had been at work on his farm, in the rain, a few days previous, and had taken cold, which had affected a carious tooth ; that the tooth had been very painful ; and that when the pain subsided, which was very suddenly, he was taken with tetanus. The paroxysms, when I first saw him, were from six to ten, in twenty-four hours ; and lasted him from ten to fifteen minutes : his head was drawn to the left, and backwards ; his countenance distorted ; his arms drawn down to his sides, and his hands firmly shut ; his lower extremities and feet drawn down as in death ; he breathed at the commencement of the paroxysms, stertorously and laboriously until it ended. I do not recollect to have seen any convul-

sive motions while the paroxysm lasted ; but he remained motionless and immoveable as a statue. As he made no complaint of the tooth when the paroxysms were off ; though it was in a very bad state, he being unwilling to have it meddled with, I did not insist upon extracting it ; though I had no doubt it had been the exciting cause of the disease. I ordered him opium in doses of from one to two grains, to be repeated often enough to keep him constantly under its influence. Brandy was also recommended to be taken at the same time with the opium to assist its operation ; but not being able to obtain it, rum was substituted. I first saw him on Tuesday in the afternoon ; Wednesday continued the practice, without any alteration in the symptoms. Thursday ordered a cathartic, which necessarily caused a suspension of the opium, it operated well, when the opium was again given ; to-day the paroxysms were not so severe as yesterday. Friday, continued the opium and rum. The paroxysms more severe ; and followed by faintings and hiccups ; which led me to suspect that the nerves of the organs of organic life had become affected. I felt alarmed for the safety of my patient ; and requested that the gentleman who had attended him before, [that is, in the former indisposition] might be called in. Saturday much the same—had a consultation with the gentleman alluded to : he proposed bleeding, which, though I had no faith in, was done. He recommended pushing the opium, and getting the patient completely under its influence ; as being more to be relied on than all the anti-spasmodics together ; but thought it proper to assist it by the other articles of that class : and among others, the cicuta [*conium maculatum*]. After the patient was bled, the paroxysms seemed to be more frequent and severe than before. Sunday noon : having lost all confidence in the course which had been pursued, I left off the opium and determined to put him under the full operation of the extr. cicuta. [con. mac.] This I commenced with a dose of ii grs. a paroxysm was evidently forming when I gave it, and which took place in about fifteen minutes. I waited an hour, to see if the medicine would produce any evident effect. I then gave him iii grs. and in about half an hour, the paroxysm returned. I waited thirty minutes, and then gave him iii grs. more. In about twenty minutes there was another paroxysm. This afternoon the paroxysms had been much more frequent than before ; and I began seriously to charge the cicuta with being the cause, and to distrust the propriety of my practice. I had however, fancied, that though the paroxysms were more frequent, they were not so strong ; and determined to put him under its full influence ; believing that it would certainly suspend the action of the disease. I, therefore,

as soon as he came sufficiently out of the paroxysm, gave him iii grs. more; and in fifteen or twenty minutes, another paroxysm formed; but so weak that I could bend any of his joints. He soon came to; but in a few minutes, fell into a state of the most perfect insensibility; every sense was dead; and every muscle relaxed: he, nevertheless breathed natural, and easily; and his pulse was perfectly regular. From this state he roused up in fifteen or twenty minutes. This was preceded by two profound sighs. He complained of the medicine for the first time since he was taken with the tetanus. He was perfectly relieved; said that he felt better, and has had nothing of the disease since. He was able to take charge of his business in a week. I ordered the cicuta to be given in the dose of a grain and an half, every two hours through the night, and Monday, till night. I suspect that the opium had not been given in sufficient quantities while it was given; but from the result of this case, I shall give the cicuta the preference until it shall fail me.

Dixmont, Maine.

Remarks on Tetanus. By Dr ABNER HOWE.

[To the Editors of the New-England Journal of Medicine, &c.]

FEW diseases for which the physician is called to prescribe, more frequently baffle his efforts, than tetanus; and few in their nature are less understood. From the time of Hippocrates to the present, we have little more than histories of cases, in which certain modes of treatment have been followed by success, or failed of accomplishing a cure. No temperament or state of the system has been described, as forming a predisposition to this disease; and even at the present day, physicians are not agreed whether to rank it with diseases of debility or inflammation, whether it is in its nature, sthenic, or asthenic. While some have considered it to consist in, or to be attended with, high morbid action of the blood vessels and nervous system; and in accordance with such opinion, have used the lancet, cathartics, and other means of depletion; others have deemed it to be a disease of weak morbid action, and have placed their confidence in the use of stimulants and tonics from the commencement of the symptoms. Cullen does not attempt a pathology of this disease; but when directing his means of cure, observes, 'we must be satisfied with having learned something useful from analogy confirmed by experience.'

Tetanus so seldom occurs in New England, that some of the

faculty have an opportunity to witness but few cases, and when a physician, perhaps for the first time, is called to a patient labouring under this disease, he is under a necessity of selecting a remedy from the varied and unsatisfactory histories, which he may have met with in books and journals. Probably the first remedy fails in arresting the disease, and from the long catalogue, which he consults, he has just time to begin the use of a second, when his patient dies. He treats the next case which comes under his notice with different remedies, because he was unsuccessful in the first, but probably with no better success. Many physicians have undoubtedly passed through life with very limited experience in regard to this disease, and for want of rational and correct notions of its nature have not become wiser by what they have seen.

I am not prepared to offer a theory of tetanus, but will relate a few cases, which show its analogy to other diseases, which are better understood and more successfully treated; and thereby do something towards recommending a more systematic and successful mode of treatment,

On the 20th of May, 1814, I visited Mrs. N. H. aged 23. She was nursing her second child, had been subject to scrophulous complaints, and was of a nervous temperament. I found her labouring under the symptoms of trismus, and the muscles of her neck and back were considerably contracted, but not attended with much pain. They were generally excited into spasmodic contraction, when she attempted to swallow. As she thought her disease had been produced by repelled eruptions—I prescribed a blister, frictions and a cathartic, to be followed by a powder of gum opium and ipecac.

21st. The spasmodic contractions were increased, and febrile symptoms more evident. Her pulse was 100 in a minute. The abdomen was hard and somewhat painful, and the muscles of the right hypochondrium were contracted in the form of a tumor. I gave her fifty drops of the tincture of opium, and directed, that twenty drops be given every hour, with as much wine as she could be induced to swallow. A liniment composed of opium, camphor, and olive oil, was to be frequently rubbed upon the affected parts.

22d. Spasms not so frequent, and less severe. The bowels were moved by an enema. The tincture of opium and liniment continued.

23d. The disease is more general and more severe. The opium continued, and ardent spirits substituted for the wine.

24th. The muscular contractions are somewhat abated. She is in a state of intoxication, having drank freely of the ardent spirits. Pulse 110. The remedies are to be continued.

25th. The spasms are less severe. An enema was used, and followed by two dejections. A physician of the first respectability was called, and in consultation, it was agreed, that opium should be given in such quantities as would remove the spasms in as short a time as possible; and that it then be discontinued until they should return. Forty drops of the tincture of opium were immediately given, and she was required to take fifteen drops every fifteen minutes until the desired effect should take place.

26th. The medicine had been given as directed yesterday, with the exception of two hours, when the patient refused to take it. The spasms were less severe but not removed. The opium in substance was substituted for the tincture, in conformity to the request of the patient, and half a grain was given every fifteen minutes, for thirteen hours. The disease being unsubdued, the result of another consultation was, that larger doses of the medicine be given. Gum opium, in the dose of five grains, was given every fifteen minutes, until fifty-two grains had been taken.

27th. The disease continues with but little abatement of pain and spasm; after an interval of two hours the opium was given in similar doses as yesterday. After twenty grains had been given, it was omitted for three hours. It was resumed and exhibited as before, until my patient had taken forty-four grains. A complete relaxation of the muscles then took place, which continued nine hours. During this time, she frequently took cordials, and light nourishment; but threw from her stomach every substance which she swallowed, mixed with the opium she had taken. Her friends entertained some hopes of her recovery until evening, when she suddenly expired.

Miss B. aged 16, of a thrifty growth, but feeble constitution, whose parents were peculiarly liable to those diseases called nervous, was attacked with symptoms of tetanus. I saw her on the third day after the rigidity of the muscles of the face and neck was observable. At this time, the muscles of the back began to be affected, and the characteristic symptoms of opisthotonos were present. I had imbibed a sentiment, that as more cures had been effected by opium than by any other remedy, this was the appropriate medicine for the disease, and when it had failed to accomplish this object, such failure was to be attributed to the incurable nature of the disease, or to an insufficient or improper exhibition of the article. In conformity to such an opinion, it was given cautiously, but in very liberal doses. Five grains were given every ten minutes until twenty grains had been taken. It was then omitted that the bowels might be moved, and re-

sumed in similar doses, and exhibited in a similar manner. This course was pursued, accompanied with frictions, and a free use of wine and ardent spirits, until she died, which was on the fifth day from my first visit.

In December, 1822, I was called to visit Mrs B. of Manchester, aged 65, who was under the care of Dr Story. I found her labouring under well-marked symptoms of tetanus. Three days before the disease took place, she received a severe wound of the hand by an axe. The muscles of the wounded arm and of the neck were first affected, but spasmodic contractions, at times were general and severe. The Doctor had given opium and ardent spirits in liberal doses on the first appearance of the disease; and on the day I saw her, it had in some degree yielded to the remedies. It was agreed, that opium should be given in large and frequent doses until complete relaxation should take place. This effect invariably followed the third or fourth exhibition of the medicine, when given in the quantity of four grains at a time. During the period of relaxation, calomel was given as a cathartic. The tetanic spasms continued to recur, and were subdued by the same means, for more than a week, becoming less severe with every successive attack, and the last symptom of the disease, which appeared was a convulsion fit.

On the evening of the 4th of July, I visited L. L. aged 13. While in Salem, to witness an exhibition of fireworks, he was wounded by the accidental explosion of a chest of rockets. A shaft of a rocket, (a piece of pine wood about half an inch in diameter and five or six inches in length,) had passed through his right thigh, entering the anterior and inside of the limb, an inch below the groin, and passed out from the back part of the thigh, about four inches from the place of its entrance. The skin and cellular substance on the anterior part of the limb were considerably lacerated. The wound, after being examined, was dressed in the usual way; and for seventeen days, my patient was apparently doing well. The cavities of the wound were nearly filled with healthy granulations, when on the 21st symptoms of tetanus appeared. The muscles of the face and neck were first affected. His mouth was almost immoveably closed, his cheeks swollen, and his forehead drawn into furrows. At times he felt a severe pain at the lower end of the sternum. His pulse was 100. I gave him two grains of opium, and directed, that he have one grain every half hour, until the muscles of the face should be relaxed, or the soporific effect of the medicine become manifest. After he had taken nine grains he could open his mouth sufficiently to be fed with a table spoon.

22d. He vomited a number of times. I advised, that he take

calomel as a cathartic, and after such an effect, that opium be given.

23d. No alvine evacuations having been produced by the medicine, he took in divided doses ten grains of calomel, an ounce of castor oil, and had a mild enema administered. Sufficient evacuations having been procured by these means, four opium pills, each containing a grain, were given in the night. Frictions were frequently applied to the rigid muscles of the face and neck.

24th. On this day he took five pills of opium and six grains of calomel. In the night the symptoms of opisthotonos were severe. His head and feet were at times almost in contact. They were removed by two grains of opium and frictions.

25th. Six grains of calomel and an enema produced two movements of the bowels. A slight ptyalism took place, and continued a number of days. The disease became less severe, requiring two or three grains of opium every twenty-four hours until the eighth day from the attack, when it entirely disappeared.

Tetanus is a disease which is frequently so violent in its attack, so extensive in its nature, and so rapid in its progress, that a fatal termination must often be expected. If it is considered to be nearly allied to those diseases called nervous, if Cullen has justly ranked it in his Class Neuroses and Order Spasmi, in connexion with Convulsions, Hysteria, Chorea Sancti Viti, Epilepsy, &c. it must be viewed as a disease of debility and treated with stimulants and tonics. Those causes which increase the irritability of the system, at the same time, they diminish the positive strength of the fibre, produce a predisposition to this disease. This state of the system may exist in any temperament, but it is peculiarly so in the nervous. Hence those persons, who are frequently affected by any of the diseases called spasmodic, are more disposed than others to this disease, when the usual exciting causes are brought into action.

In regard to the treatment of tetanus, I am induced to recommend the combined use of opium and calomel for the following reasons.

1. When two powerful remedies, in combination, are calculated to produce that state of the system, which is necessary for the removal of the disease, the combined exhibition is to be preferred to the individual use of either. Opium as an anti-spasmodic probably produces its greatest effect in a short time after it is taken, before indirect debility takes place. When it acts most powerfully as a stimulant, and the highest excitement is produced, it is most efficacious in removing spasms. Therefore when it is given as a remedy in the cramp of the stomach, the dose may

safely be repeated every fifteen minutes until relief is procured. Mercury is efficacious in removing spasmodic diseases, by increasing the action of the blood vessels and vascular system generally, and thus producing a peculiar excitement or disease. The mercurial disease is more effectual in the removal of morbid actions, than alcohol or most other stimulants, because it is more general, and of longer duration.

2. Experience is in favour of the superior efficacy of the mode of treatment, I am recommending. It is true that the physicians of the West Indies have used mercurials with an unsparing hand, and have generally been unsuccessful with this remedy.

Opium has been given at the same time, and success has not followed their combined effects. But such failures, in a climate where this disease runs its course with such frightful rapidity, as is common in the West Indies, is not a sufficient argument against the general good effects, which may follow their use in more northern latitudes.

Physicians sometimes witness cases of sudden failure in this climate, but the majority of fatal terminations take place between the fifth and ninth days. There is generally sufficient time for the mercury to have its full effect, in combination with opium and other stimulants. Success has sometimes followed the use of arsenic, ardent spirits, spirits of turpentine, the cold bath, &c. ; but this has not been a frequent result. It is an acknowledged fact, that more dependence is to be placed upon opium as a remedy for this formidable disease, than upon any other medicine. If another remedy can be found of known antispasmodic powers, and these can be combined without neutralizing or counteracting each other, it is reasonable to conclude, that their joint effect must be powerful in arresting a disease, which has generally proved fatal. In the two first cases above recited, opium was the remedy, on which our principal dependence was placed ; and our want of success could not be imputed to a careless or sparing use of the medicine. The other cases, which I have detailed were treated with calomel in combination with opium, and success followed such practice. I am aware of the impropriety of establishing a general principle from a few insulated facts ; and of the errors, which have sometimes been propagated by the injudicious publication of remedies, without sufficient evidence of their efficacy. But no injury can follow the course which I have recommended ; and the publicity of occasional success in this disease may not be without important benefit.

I am sensible, that those diseases, denominated nervous, are generally rendered more severe and more protracted from an alterative course of mercury ; but when from their violence, or

long continuance, powerful means are called for, to arrest the progress of high morbid action; this remedy, carried to such a length as to produce local effects upon the salivary glands, is generally entitled to our confidence.

That combination of tetanic symptoms, which is sometimes connected with hysteria, with a complex nervous affection denominated by a late writer,* 'Mymosis Urgens,' has been generally thought, from its comparatively mild character, to be a distinct disease from tetanus. But I am disposed to think, that the similar symptoms in each affection, arise from the same proximate cause, and constitute the same disease. The third case above related was unquestionably a case of traumatic tetanus. When the symptoms of this disease were nearly subdued by remedies, convulsions took place. Here the disease, from first to last, was probably the same, differing only in degree. At one end of the scale appears tetanus, and at the other, convulsion.

Beverly, Nov. 1823.

Case of Tetanus. By WARREN ABBOT, M. D.

[Communicated for the New-England Journal of Medicine and Surgery.]

NOVEMBER 18th, 1823, I was called to visit Mr. R—— a dispensary patient aged thirty-three. When I entered his room he was resting on a chair with his right arm and leg extended and firmly fixed by the violent contraction of the extensor muscles, his mouth, was forcibly drawn to the right side, and appeared to be held in doubtful contest by the spastic action of the levator and depressor anguli oris and other muscles of the mouth and lips, while his whole countenance exhibited a forbidding and almost terrific appearance. I asked the cause of his suffering but he could not answer so long as the paroxysm continued. I enquired of his wife, she replied, 'I dont know what is the matter with him; he appears dreadful silly, snappish and crazy of late; sometimes he wants drink and when I bring it to him he knocks it away; sometimes he wont speak, and then he makes up such awful looking faces; then again he wants something done to his hand where it was hurt, but if I go to touch him he screeches out like a mad man; he is all the time getting worse, he wont eat, nor drink, what shall I do with him?' On farther inquiry it appeared that a few days previous a rusty nail had by accident been thrust into the right hand, near the lower end of

* Hall.

the metacarpal bone of the little finger. The wound had so far healed that nothing appeared externally but a small cicatrix. The precise nature and extent of the wound therefore could not easily be ascertained. Neither could I learn the direction the nail penetrated, or the relative state of the skin and loose cellular integument at the time the wound was inflicted, it is probable however that one of the tendons of the little finger was injured. Shortly after the accident when the wound began to heal, he had, as he expressed it, a 'strange kind of feeling beginning in his little finger, and running up his arm to the shoulder, then down his side to his leg, at last it went clear through to his stomach and insides he could'nt tell how. It was sometimes so bad he could neither talk, eat nor drink—he did not dare to drink for fear he should be strangled.'

On examination the large muscles on the right side, particularly the latissimus dorsi, seemed contracted into a form like the segment of a globe. The spasmodic affection was most severe on the right side, but the whole system was becoming more subject to tetanic influence, the paroxysms were also occurring more frequently. As there could be no doubt as to the character of the disease, and it being necessary that something should be done without delay, I thought that opium was a remedy best suited to his case. He could take no liquid, he was therefore directed to take two grains of opium in pills immediately to be followed by one grain every hour till the spasmodic action should be overcome.

19th—In a free perspiration, had taken twelve grains of opium in ten hours; after an hour or two of sleep appeared perfectly easy, and was able to wipe the sweat from his face with his *right hand*. A cathartic of salts and senna was directed to be taken in the course of the day.

20th—The cathartic had operated well. The patient was sitting at the table with his family at breakfast as usual.

I have thought proper to communicate this case, not on account of any thing new, but because every fact in clinical medicine, relating to such an alarming disease as tetanus, is worth preserving and repeating till indelibly fixed on the mind of every one who has any thing to do with life and health.

1. It is worthy of remark that owing to the constriction of the muscles of the throat, the symptoms of hydrophobia were distinctly manifest in this case.

2. The wound, which was the exciting cause, was completely healed, when the nervous irritation and spastic action was the greatest. There is an instance related of a man who died of

this disease, after amputation of the shoulder joint, in which case, the life of the patient and the perfect healing of the wound were terminated on the same day.

3. In giving opium in diseases of this kind, we must regard the effect produced, rather than the quantity given.*

Boston, Dec. 5th, 1823.

A Case of Organic Disease of the uterus ; and a Case of Imperforated Hymen. By C. G. ADAMS, M. D.

[Communicated for the New-England Journal in a letter to one of the Editors.]

ABOUT ten years since, when a pupil, I recollected to have dissected a human uterus with its appendages, which had, for two or three years, been kept in alcohol. In the almost shapeless mass of disease which the preparation presented, several tumours varying in size, the largest being about that of a man's fist, and of fleshy consistence, were found in the parietes of the uterus and involved in the broad ligament of one side. A tumour, apparently buried in the thickened parietes of the uterus at its fundus, when disengaged from the cyst which enveloped it, was found to be very firm bone. Its shape was circular, flattened on one side and convex on the opposite—its surface had a rough granulated appearance. On passing a saw through it, to the action of which it afforded very strong resistance, it appeared to be constituted of many very compact osseous portions irregularly blended together, and defined by small interstices, the structure of the bone itself being in no degree cellular. I do not recollect any remarkable appearance of the ovaria. There was no tumour on the internal surface of the uterus. The bone, which I send you, weighs in its present dry state 2½ ounces, about one fourth part of it having been removed by the saw, and not in my possession.

I am informed by my father (Daniel Adams, M. D.) in whose practice the case occurred, that the subject of it was a married black woman of about forty-five. She never was pregnant. Painful and irregular menstruation—pain and weight in the uterine region together with distressing tympanites had for eight or ten years back been increasing in severity and constancy.

* "Twenty grains of opium have been given every three hours, in conjunction with musk, cinnabar and other medicines ; and continued with little abatement for seventeen days ; in which time the patient took five hundred grains of this narcotic."

Good's. Study of Medicine Vol. iii. page 226.

Under aggravated symptoms of this kind inducing suspicion of ascites, she died.

The London Medical and Physical Journal, May 1821, contains "An account of some osseous tumours found in the uterus of a woman. By Mr Edward Jukes, Surgeon, &c." an abstract of which, I observe in the London Medical Intelligencer, May 1821. In this case an osseous tumour was found in the parietes of the fundus of the uterus weighing 17 ounces. There were other smaller tumours of a similar description.

Dr Francis of New-York relates a case* in which a bony tumour of the size of an orange was found in the cavity of the uterus, attached to its fundus by a short pedicle. There was also a bony tumour, smaller, in the right fallopian tube, besides fleshy tubercles about the cervix and slight ossifications of the substance of the uterus itself.

Case of Imperforated Hymen.

Imperforated hymen is among the congenital malformations which have occasionally been found in the sexual organs of the female, as has been noticed by late and many of the older writers. This membrane has existed in various degrees, from the mere rugosity which has induced doubts of its reality, to the complete septum, dividing the vagina from the vestibulum, and even extending over the meatus urinarius in so considerable a degree as to interrupt the evacuation of urine. When the vagina is completely closed by the hymen, no inconvenience is produced until the period of menstruation, when the menstruous fluid is retained in the vagina. Periodical accumulations of this kind, at length induce disease, and, if there be no interference of art, ultimately death.

In August last, I was requested by a physician to visit with him a patient to whom he was called the day previous. From the circumstances mentioned by him, I suggested my apprehensions of imperforated hymen. On visiting the patient, a girl of 14, it appeared that there had never been any appearance of a catamenial discharge—that once or twice she had had symptoms of its access which induced her mother to administer a domestic draught, and they passed off without further consequence or particular inconvenience. After pain in the back, about a month since, she first observed a sensation of distension at the pudendum, and a distension of the abdomen. The function of the bowels has been uniformly undisturbed, though the fœces have

* Francis' Deiman.

shown on one side a strongly marked furrow. Except at the periods mentioned her general health has been in no degree impaired to attract the notice of the family, till about a week since, when the weight and distension, about the inferior part of the abdomen, pain in the back and difficult, painful micturition, attended with some loss of energy, generally, excited more particular attention. On examination, I found just at the common limit of the vagina and vestibulum, a membrane stretching across the vagina and closing it completely. This membrane, continuous with that which lined the vestibulum, presented a surface slightly convex, and rendered very tense obviously by the pressure of fluid within. By a single incision I made an entire division of this membrane from its posterior to its anterior boundary, and at the instant the imprisoned fluid escaped as rapidly as the extensive orifice would permit. Not less than three pints were thus evacuated. Cloths received a chocolate coloured stain from the fluid, but in a vessel its colour was much darker. Its consistence was that of fluid blood, without any appearance of coagulation or putrescence. The membrane did not appear to be thickened, and nothing further seemed necessary but care to prevent its re-union.

The principal symptoms, in this case, after retention, were the immediate mechanical effects of the imprisoned fluid.

The effect of absorption, and of long continued pressure on the membrane, is seen in the case related by Dr Denman, in which four pounds of fluid of the colour and consistence of tar, were evacuated—the subject being a lady of 22 years of age. The membrane was much thickened, rendering “a stellated incision” as he thought, a necessary part of the operation.

Keene, (N. H.) Nov. 1823.

REVIEW.

ARTICLE I.

Mémoire sur l'Auscultation appliquée à l'étude de la Grossesse ou Recherches sur deux nouveaux signes propres à faire reconnaître plusieurs circonstances de l'état de gestation ; lu à l'Académie royale de médecine, dans sa séance générale du 26 Décembre 1821. Par M. J.— et LEJUMEAU DE KERGADEDEC, Docteur en médecine de la Faculté de Paris, &c. &c. &c. Paris, 1822.

IN a former number of this Journal a short notice was given of the application of the stethoscope to the study of pregnancy. Since then we have received the work itself, which contains the facts which were referred to in our note on the subject. It is quite a curious memoir, and though it should happen that farther experiments with the stethoscope in pregnancy, should not confirm all the views entertained by M. Kergaradec, still what has been established deserves to be noticed. M. K. was led to the employment of the stethoscope from his convictions of its utility in the study of the diagnosis of diseases of the chest. He had occasion to visit a patient some months advanced in pregnancy, and he resolved to learn by the aid of the stethoscope, if the fluctuation (*flot*) produced by the movements of the fœtus in the liquor amnii could be heard by the instrument. This sound he remarks can be perceived only when gas is extricated in the fluid, which is an exceedingly rare occurrence, and in this instance no sound was perceived. Other phenomena however were noticed. These, with others noticed in other cases, with remarks and inferences, are the subject matter of the pamphlet under review.

CASE. I.—Madame L. had arrived at the close of pregnancy. One day, says M. R. while engaged in observing the movements of the fœtus, I was suddenly struck with a sound, which before had never attracted my attention : it seemed to me like the ticking of a watch placed very near me. I removed my ear from the parietes of the abdomen, and immediately the sound entirely ceased. This sound was thought to be owing to some illusion of

hearing, but repeated trials gave the same results. M. K. in the next place, proceeded to analyse this phenomenon, and very soon perceived double pulsations, returning at the regular periods which produce the contractions of the heart. He counted them for some time, and found them renewed from 140 to 148 times in the minute. The pulse of Madame L. beat at the time but 70 times in the minute. A defect so considerable in isochronism, and the place too where the beats were heard, did not permit M. K. to consider them as depending on the heart of the mother. He considers them to have been produced by the beats of the foetal heart. During fifteen days which elapsed between this time and delivery, M. K. continued his explorations, and states the results at length.

The double pulsations were heard in the left side of the abdomen: they extended vertically in a space at least of a foot, from some inches below the umbilicus to a little above the crural arch. More limited in the transverse direction, they could not be heard very near to the left nor towards the right, beyond the median line. Their greatest intensity was noticed in the point in which they were seated, which varied a little.

The foetus seemed, according to a common expression, to carry itself to the right. It was in fact towards the right hypochondrium, that there were perceived, through the abdominal parietes, projections formed apparently by the lower extremities. The double beats were heard at the inferior left part of the abdomen. These two circumstances united led me to think that the infant was placed obliquely, the head below and to the left, and the other extremity of the ovoid above and to the right. It was probable moreover that it presented the back; for besides that this is the part which is directed forwards in the majority of cases, the intensity of the double beats rendered this highly probable, agreeable to a remark of the author mentioned hereafter. These predictions were verified in the course of the labour. The pulse of the mother during the fifteen days in which M. R.'s researches were made, beat from 54 to 72 in the minute. The beats of the foetus varied in the same period from 123 to 160 double beats. One morning after unusual movements of the foetus, the pulsations of its heart reached the *maximum* 160; that of the mother was also at its highest 72. At one time the double beats of the foetus were too rapid to be counted. The pulse of the mother was unaltered. After a short time, the foetal pulsations recovered their accustomed rhythm.

The above is not all that auscultation discovered to M. K. in this case.

One day as he was endeavouring to hear the beats of the heart

of the foetus on the right of the abdomen, he distinguished simple or single pulsations, regular, and perfectly isochronous with the pulse of the mother. Their force was such that they seemed to be produced in very large canals, or at the same time in a great number of canals. They were accompanied by a particular sound which approached the breathing, (*soufflé*) observed in certain diseases of the heart, or of the large vessels. They were besides heard only in a very circumscribed space at the right, below the umbilicus; they were not to be perceived at the left in any point.

To what asks M. L. are we to attribute these pulsations? They do not in any degree correspond with those of the heart of the foetus, and from their very limited extent they cannot be attributed to the ventral aorta, nor to the principal branches which proceed from it; the place too where they were observed does not at all correspond with that of the large vascular trunks, and these last are behind the uterus and the whole foetus. The conclusion would seem to be that the beats in question were produced by the uterine arteries dilated during pregnancy. But then they should be heard every where over the enormous surface which this organ presents when distended by the foetus at the full time; still they could be heard only in a very circumscribed space. From all these circumstances the author is led to think that the simple pulsations with the breathing sound (*soufflé*) had some relation with the point of insertion of the placenta on the uterus.

Farther, these beatings were not perceived by the ear every time they were listened for; they sometimes disappeared and did not reappear till an interval of some days. These variations are attributed to some change of position of the foetus relatively to the placenta.

During labour, and when the dilatation of the mouth of the womb equalled about half a dollar, the pulse of the patient beat 85, that of the infant from 136 to 139, they were heard much lower than ordinary, and very near the median line. The simple beatings were also very perceptible; these were always heard on the right side, to the exclusion of the left.

Three hours after, the labour had made great progress, and the infant was engaged in the hollow of the sacrum; it was still possible to discern the beats of its heart, but they were not counted. The simple pulsations were not distinguished. At the end of two hours Madame L. was delivered of a strong and healthy child.

Other cases follow. One of five months, in which a very superficial examination, did not discover the pulsations of the heart of the foetus. The simple beatings which the author is

disposed to ascribe to the vessels of the uterus in the spot where the placenta is attached, were very sensible.

The third case was near the full time, but the patient was so much reduced by severe disease, that she seemed to have but few hours to live. In this case the simple beats were easily and perfectly distinguished, but those of the foetus could not be heard. Two days after, this woman was delivered of a dead and almost putrid infant.

The next case was seven or eight months, and the woman had anasarca. On one side of the abdomen, the simple beatings were very distinct, and on the other the double pulsations. These last were very feeble. In a month, the patient was delivered of a very feeble infant, which lived but a few days.

The fifth case was at eight months, the double pulsations though distinct were very feeble. In this case the abdomen was very large. Still a very small but healthy infant was born. M. Kergaradec asks if the scarcely perceptible beating of its heart arose from its weakness, or the quantity of the liquor amnii?

In the last case, the ninth, M. Laennec is spoken of as having made similar trials with M. K. and with similar results. It does not appear that they have been made under the most favourable circumstances by either of these gentlemen, the patients not being in bed, but in ordinary clothing; the time of examinations was short, and the rooms not very quiet where they have been made. The trials have been made by applying the ear to the abdomen, and by mediate auscultation, by the stethoscope. The pulsations have been heard in both ways, but M. K. is disposed to think that the stethoscope will prove the best means of hearing their sounds.

Theoretical and practical inferences from the above facts are next stated.

All the cases except one agree in this: the double beatings were perceived on the side opposite that to which the inferior extremities of the foetus are more especially directed. In the greater number of cases the simple beatings occupied a very circumscribed spot. A striking exception to this was observed by the author in company with M. M. Laennec and Lens. The simple beating was in the majority of cases detected in that part of the uterus which the greater number of midwifery writers regard as the most common place of attachment of the placenta. Lastly M. Laennec led M. K. to distinguish the beating of the heart of the mother at the middle left part of the abdomen of a woman, eight months with child, who had never discovered any organic disease whatever, and as far as the inferior right part of the same cavity in another woman equally advanced in pregnan-

cy, but whose heart was evidently in a state of hypertrophy with dilatation. It is necessary to state here, says the author, that the very rare occurrence of these double pulsations leaves it hardly possible to confound them with those of the fœtus.

The advantages of auscultation whether mediate or direct in the practice of midwifery are next treated of, all are agreed that some obscurity exists in many cases respecting the existence of pregnancy, and the same is true of the precise state of the fœtus, whether it be alive or not. Ordinarily this uncertainty, especially in regard to the first point, is of no great consequence. Cases however do now and then occur, in which it is very desirable to have the question settled, or that the approximation to truth may be as near as possible. It is in these the ordinary signs are found most liable to exception, and the case is left in some doubt, till delivery takes place, or such changes occur as will remove all doubt. Explorations by the stethoscope or otherwise, may come in aid of our other means of investigation, and if the facts respecting it be substantiated by farther trial, it will furnish a very valuable addition to the means now in use. If in a given case, the double beatings are heard, and which are ascribed to the movements of the fœtal heart, there will remain no doubt of the existence of pregnancy, and of the fœtus being alive. The strength of these beats will indicate the strength of the fœtus. The existence of double pulsations in different parts of the abdomen, in two or more for instance, may indicate the presence of twins or triplets, and the want of isochronism in these double beats in different parts will give support to the indication.

The position of the child in the uterus may be learned by the new method of exploration. From the position which its various parts assume, an ovoid form is produced, its extremities being bent and applied to its abdomen. It is fair to infer then that the pulsations of its heart will be most distinctly heard at its back, and that hence when the double pulsations are very distinct the back rests against that part of the uterus, which corresponds to the place where the ear of the observer is applied. The simple beatings are supposed to indicate the place of attachment of the placenta. If this be true, very useful information is afforded us in conducting the cæsarean operation. It is very desirable to avoid the placenta in this operation, and the use of the stethoscope, or direct auscultation, may teach us how this can be done.

Extra-uterine gestation may receive elucidation from the same means. If the double beats, those of the fœtal heart, are heard in unusual situations in the abdomen, and if examination per vaginam shows the uterus to have undergone no development, the

fact of extra-uterine pregnancy might be made out, and the true situation of the fœtus discovered whether in one of the ovaries and which; the fallopian tube, or abdomen.

M. Kergaradec next alludes to that very unsettled question, the mode of communication between the circulation of the mother and that of the fœtus. He has hazarded the opinion that the simple beatings with the breathing (*soufflè*) heard through the stethoscope or otherwise, are to be ascribed to the seat of the placenta. He does not know however but that they proceed from the placenta itself, and thus are under the direct influence of the heart of the mother, in other words are produced by its contractions. If this be true, is the question respecting the mode of communication between the mother and fœtus settled? However this may be, the fact that these simple beatings correspond to the place of insertion of the placenta, may be usefully applied in practice.

The following questions are proposed as worthy the attention of future observers of the facts which auscultation may discover by its application to pregnancy. 1. At what epoch of pregnancy, the one or the other orders of beatings begin to be perceived, and if the epoch is not constant, the reasons of the variations; 2. the changes the double pulsations may undergo in pregnancy, &c. and the effect on these of the advance of the pregnancy; 3. if the variations, likewise regular, take place at different parts of the day; 4. if these exist, at least sometimes, a correspondence between the state of the pulse of the mother, and the pulsations of the heart of the fœtus; 5. whether these last are affected by the state of sleep, or of watchfulness; of the stomach whether full or empty; of the passions, diseases, &c. of the mother; 6. what are the true causes of the occasional disappearance of the simple, and even of the double beatings; 7. what relations exist between the intensity of these last, and the strength or situation of the fœtus; 8. if there be really any connexion between the spots where we observe the first and the part of the uterus which corresponds to the placenta; and between the spots where we observe the second, and the position which the fœtus affects; 9. if in plurality of fœtusses, it be possible to distinguish double pulsations proceeding from centres of different impulsion, and wanting of course, isochronism; 10. finally, to what period of labour is it possible to follow the double and simple beatings.—In conclusion, we are cautioned against being deceived by the sounds produced in the abdomen by flatus, which a little practice will enable us readily to distinguish from those of the fœtal pulsations, and it is recommended that the stethoscope be used in preference to immediate auscultation.

This memoir was committed by the Royal Academy of Medicine of Paris, to M. M. Déneux, Désormeux, Dubois, Laennec and Lens, and a very favorable report was made respecting it. M. Lens, one of the committee has had opportunities of testing by experiment the method of M. Kergaradec. He has communicated to M. K. three cases in which the new method has been tried, and with very satisfactory results.—In the first case great obscurity as to the real state of the patient existed. Auscultation was at length resorted to, and placed the existence of pregnancy beyond a doubt.

We have now given a condensed account of the contents of this memoir of M. Kergaradec. We shall offer no objections to the new method of studying the state of pregnancy. We have no facts to add in support of it. In a single case only have we made any trial of it. In this case, the term of gestation was nearly accomplished. The stethoscope discovered nothing. We cannot in conclusion but express a hope that the method of M. K. will be fairly tried by our brethren.

M.

ARTICLE II.

A Treatise on Diseases of the Nervous System. Part the first: comprising convulsive and maniacal affections. By J. C. PRICHARD, M.D. late of Trinity College, Oxford; Fellow of the Linnean and Wernerian Societies, &c. Physician to St Peter's Hospital and the Bristol Infirmary. London, 1822. pp. 425.

THE first chapter of this volume, entitled 'a physiological survey of the functions of the Nervous System' being principally occupied in inquiries of a speculative nature, and having only an indirect relation to the practical part, we omit any particular notice of it, and proceed at once in our analysis to the second, which contains a 'Pathological survey of the diseases incident to the Nervous System.'

Being entirely ignorant in what the ordinary and healthy actions of the organs composing the nervous system consist, we can of course form no clear ideas with relation to the proximate causes of their diseases. Our inquiries with relation to their pathology therefore must proceed empirically, and the resources we possess for this sort of investigation are mentioned under three heads.—1. Morbid Anatomy. 2. The connexions of these disorders with those of other functions. 3. An attention to the Juvantia and Lædantia, which includes all experiments on the

effects of remedies, and the histories of various methods of treatment.

Many of the diseases of this class are more nearly connected with respect to their causes and the morbid conditions in which they consist, than those of any other. This affinity is very striking and is frequently and remarkably evinced. Apoplexy and paralysis are continually passing into each other: and both of them have a close connexion with epilepsy. Epileptic convulsions frequently succeed an attack of apoplexy or of palsy; and the subjects of epilepsy often become paralytic, or die with all the ordinary symptoms of apoplexy. There are also many cases so nearly intermediate in their phenomena, between apoplexy and epilepsy, that it is difficult to say with which they should be classed. They resemble epilepsy in their frequent repetition, and in leaving the patient in the same state as before the attack, and apoplexy in all the symptoms occurring during the paroxysm, except the stertorous breathing. There are a few cases which hold a corresponding place between epilepsy and paralysis.

Mania is closely allied to all these diseases. Maniacs are very subject to die of apoplexy or to become paralytic, and on the other hand those who have suffered from the latter diseases, become frequently impaired in mind. The paroxysms of epilepsy are followed in many cases by delirium, or even by permanent insanity. Vertigo although sometimes it is the only distinct symptom, and proves to be unimportant in its results, is yet, not unfrequently, the precursor of some of the graver diseases of the nervous system, particularly of apoplexy. The same may be said of fits of tremor and partial convulsions. Chorea, although in many respects distinguished from the other disorders which have been mentioned, yet exhibits many circumstances which indicate a relation to them, and conversions of chorea, epilepsy and paralysis, are by no means rare occurrences. Somnambulism, it was supposed by Dr Darwin, is related to epilepsy, and this notion is not without facts to support it. Hysteria in turn puts on the form of almost every individual distemper of this class. To confirm this view of the close connexion and relation of nervous diseases it is said by Dr Prichard, that 'the morbid appearances discovered on dissection, are very analogous in most of the diseases above mentioned. In fact it is much more difficult to point out some minor differences, by which they may be distinguished from each other, than to trace their common resemblance.'

This remarkable connexion between the different disorders of the nervous system, renders it probable, that when they have

their seat in the same structure, they depend on similar deviations from the healthy condition of the system, and this is an important inference with regard to the theory of those disorders. In many of them there is very obviously a morbid accumulation of blood in, or a disproportionate circulation of it through, the brain and it might be inferred that a similar condition is present in the other complaints of the same class. In apoplexy the increased vascular action of the brain is well known, and it might be fairly concluded, that in other disorders, which show their alliance to apoplexy by their frequent conversions and transitions to it, a similar state is present. Other diseases such as hydrocephalus and continued fever frequently exhibit symptoms similar to those which are observed in nervous diseases, such as stupor, vertigo, convulsions and delirium; in these cases, such symptoms can be clearly traced to an increased vascular excitement of the brain. Dissections of those who have died of nervous diseases, display little else but such changes of structure, as are the common effects of inflammation and of increased vascular action. And finally the course of treatment which has been found most successful in the greater proportion of those diseases, if analysed, will be found to resolve itself into this—the restraining in one way or another the determination of the blood to the head, and diminishing the quantity circulating in it. This of course is only true in part; there are many exceptions, and many other indications may arise under particular circumstances; but, generally speaking, it is proved that more relief is found from those means which lessen the circulation in the head or divert it from it, than from all others.

It is certainly difficult to conceive how one cause can give rise to such a variety of effects—how, for example, the proximate cause of epilepsy can be in a moment so modified as to give rise to delirium; but until we are possessed of a more intimate acquaintance with the physiology of the nervous system, we must remain in ignorance. The only modifications we can trace, are in the degree of the vascular action; and there may be a difference in kind which we have not the means of estimating.

Nervous disorders are not only connected with one another, in the manner described, but they are also frequently preceded and apparently caused, by other disorders affecting other structures, and particularly by those affecting the abdominal viscera. Physicians have consequently supposed, that some of the disorders of this kind depended upon a real affection of some part of the nervous system itself, whilst others were merely excited from a sympathy of part of that system, with some other organ which was the actual seat of the complaint; and there are, in

fact, many cases where dissection shows no vestiges of organic disease.

It is the opinion of our author that even among those cases 'which are consequent upon irregularities in the natural or vital functions, a great majority will be found to depend upon actual disease and often organic disease in the brain, or some other part of the nervous fabric, which though in the first instance a secondary affection, becomes in the sequel a morbid cause of no less real existence, and often not less difficult of cure, than those diseases which primarily affect the brain itself.' Still in regard to the treatment of different cases, particularly on their first occurrence it is important to discriminate, those which originate in either of the vital or natural functions. With a view to such a discrimination Dr Prichard has arranged the facts and observations which constitute this work.

'In one department those cases of nervous diseases will be placed which originate in a suppression, tardy appearance, or other deficiency of the periodical functions of the uterine system. A second class will include those instances of similar disease which are the result of torpor, or irregular action in the intestinal canal, or of disorder in the functions of the stomach. Another division will consist of some cases in which morbid affections of the brain and nervous system are connected with the disease of the liver. A fourth class may comprehend disorders of the animal functions, which may be termed idiopathic, since they arise in consequence of the operation of causes, which act immediately on the functions of the nervous system, or induce primary disease in the structure of the brain. To this class belong, for example, those cases of madness and of epilepsy which arise from the influence of mental emotions, as grief, terror and the like. Another class of nervous disorders appear to depend on diseases of the heart, whether of function, or structure. Several cases of this description have casually fallen under my own observation, but I am afraid they are not sufficiently numerous to establish the fact of this connexion in a manner satisfactory to all my readers. Another division of diseases, distinct from all the foregoing, are those which arise from the metastasis of inflammatory disorders, such as rheumatic and cutaneous inflammation, and the inflammation of serous membranes.'

'These cases will be placed, not exactly according to the order in which they are here enumerated, but in that connexion in which they are most likely to illustrate each other, and the relation which they bear to the causes from which they originate. For the same reasons I shall transgress the regular mode of describing disorders monographically, and set before my reader a comparative view of epileptic and maniacal cases in connexion, after premising general descriptions of these diseases, with some remarks on their pathology. This mode of proceeding, though contrary to established cus-

tom, is the only one that will enable me to throw some light on the relation of nervous diseases to the other disorders which precede or accompany them; and I have selected epilepsy and mania as specimens, because they exhibit this relation more distinctly than other affections of the same system. My research into the nature of these disorders will occupy the greater part of the present volume; the remainder will contain observations on other complaints nearly allied to them. In a succeeding volume I propose to treat in a similar manner of apoplexy and the various forms of paralysis, of chorea, and some other diseases of the same system; and to show that all these affections are equally referrible to derangements of the natural functions.'—pp. 79, 80, 81.

Chapter III. is entitled 'a general description of Epilepsy.' The different forms of this disease are arranged under three divisions.—1. Common or convulsive epilepsy which is defined to be, 'a disease manifesting itself in sudden fits, attended with total or partial loss of consciousness, and a general convulsive agitation of the voluntary muscles.' 2. 'The less frequent or tetanic form, is distinguished by sudden fits of coma or loss of sense and consciousness, without convulsion, but attended with a tonic spasm of the system of voluntary muscles; the whole trunk during the fit becoming rigid and inflexible.' The third kind is denominated *Leipothymia*. It consists 'in a sudden loss of sense and consciousness, the muscular system being relaxed, and the patient lying in a state resembling sleep, and at the same time without that state of the circulation which is peculiar to syncope.' These fits are not distinguishable easily from apoplexy by the phenomena of the paroxysms alone, but are sufficiently so by the general tenor of the disease.

The common symptoms of epilepsy are familiar to all physicians. They are detailed by Dr Prichard with sufficient clearness and accuracy; and the variations to which they are subjected and the influence of a variety of circumstances, such as age, temperament, hereditary disposition, &c. upon the occurrence and phenomena of the disease, are noticed.

Epilepsy in children often terminates in sudden death. In more advanced life, this termination is more rare; but the fits frequently produce some modification of paralysis, some diminution in the acuteness of the intellectual faculties, a species of delirium which follows the paroxysms and continues a longer or shorter time, and a kind of somnambulism.

The immediate cause of epilepsy, in an epileptic subject, consists, in the opinion of our author, in a preternatural influx of blood to the brain or an unusual fulness in some part of the vascular system of that organ. Some of his reasons for this opinion have been given; he adds to them the occur-

rence of epilepsy in plethoric habits, in cases of suppressed or retained catamenia, in metastasis, in cases where the circumstances are well known to occasion an inflamed state of the encephalon; the fits are also occasioned by muscular exertion, loud speaking, hot rooms, violent emotions, violent coughing, all of which affect the circulation in the head. The phenomena of the paroxysm, the consequences of the disease, and the appearances on dissection all point to the same conclusion.

In Chapter IV. 'a general description of Madness,' Dr P. enters into some ingenious discussions with regard to the nature and characteristics of that disease, and meets with the same difficulty that occur to all reasonable men, in distinguishing the sane from the insane. The result however at which he arrives is, that 'the character of madness seems to consist in the circumstance that *the impressions of reverie are so modified by the disease as to be no longer distinguishable from those of attentive and active reflection.*' It is a position taken by Dr P. in the commencement of the work, and upon which he proceeds in his inquiry into the nature of madness, that in no case is the faculty of judgment impaired; and that no defect of the reasoning power constitutes any part of madness. This position he maintains with much ingenuity and appearance of truth. He also is of opinion that all acts of perception, of memory and of imagination are accompanied or caused by some physical change or operation in the brain, but that the acts of judgment are not, and of course it would follow that all madness depends upon some physical cause or is a real corporeal disease.

With regard to the pathology of the brain in madness, nearly the same remarks made on the subject of epilepsy might be repeated. Pathologists have looked for *peculiar* appearances in the brains of madmen. But from what has been said of the general connexion of madness with other nervous diseases, these, in the opinion of our author, are not to be expected. He quotes in his support the remark of Pinel who says—'I have attended at thirty-six dissections in the hospital of the Bicêtre, and I can declare that I have never met with any other appearances within the cavity of the cranium than are observable on opening the bodies of persons who have died of apoplexy, epilepsy, nervous fevers, and convulsions. From such data what light can be thrown on the subject of insanity?'

Chapter V. 'Of epileptic and maniacal cases, depending on the state of the uterine functions.' Nervous diseases depending on this cause are the result of changes in the distribution of blood caused by some irregularity or imperfection in the catamenial discharge. Uterine epilepsy chiefly affects young females of the san-

guine temperament, and appears in general about the age when the catamenia commence, or soon after, and may arise from a suppression or retention, in whatever way produced. There is nothing peculiar in the character of the paroxysms, but they approach most nearly to that form entitled *Leipothymia*. These cases are often confounded with hysteria and are often accompanied by hysterical symptoms, but they are still distinct from it. The measures to be adopted in these cases differ according to the circumstances of the uterine function under which the disease takes place.

In cases of total suppression from whatever cause, the indications are 1. to relieve the morbid determination to the head. 2. To restore the natural determination to the uterine system. 3. If that cannot be done to bring the constitution into a state in which the injurious effects of amenorrhæa will be felt in a less degree. Bleeding is the principal means of answering the first indication and we are to be guided, in the use of this remedy by the same principles, that govern us in other cases; we are to be influenced, not so much by the quantity of the blood taken or the repetitions of the operation, but by the strength of the patient and the effect produced on the complaint. The warm bath is recommended as an auxiliary to bleeding, and is very efficient in promoting the second indication, the restoration of the discharge. The same object is also to be attempted by stimulating clysters, particularly of oil of turpentine combined with castor oil, and by emmenagogues, of which the oil of turpentine, in a dose of from half a drachm to two drachms three times in a day, is considered by Dr Prichard as the most effectual. The bleeding and other measures frequently restore the discharge, or at any rate relieve the epilepsy. But should this not happen, then the third indication remains to be fulfilled. It is to be done by preventing the recurrence of the plethoric state by means of a suitable diet and regimen, and by producing some artificial drain by an issue or seton which shall divert the morbid tendency from the brain. The last resource in cases of this kind is marriage, which frequently proves a complete remedy.

In cases where epilepsy accompanies defective or difficult menstruation, moderate bleedings, and those means which promote relaxation of the system, and a determination towards the uterus are principally to be relied upon. At the same time the other measures recommended for promoting a free discharge in cases of amenorrhæa should be put in practice. Where these means do not remove the disorder, they will often, if employed at the commencement of the constitutional orgasm, keep off the attacks of epilepsy; and much may be done to obviate the in-

jurious effects of dysmenorrhœa by constant exercise, purgatives and artificial drains.

Uterine mania presents a greater variety than uterine epilepsy. Sudden suppressions of the catamenia are often the prelude to attacks of this nature; they are sometimes of short duration and subside as soon as the catamenia are restored; in other cases the disease continues for some time after its original cause has ceased to exist, and is occasionally permanent. Maniacal affections in young women are frequently conjoined with irregularities in this function, and we may probably conclude that they are caused by them, since relief is usually obtained by improving the state of the catamenia. Even where there is no interruption of the uterine discharge, many women display a degree of excitement and irritation in the system at the period of menstruation; and where there is any degree of dysmenorrhœa, the subject suffers often from what is termed nervous disorder, affections of the animal spirits approaching hysteria, &c. &c. With regard to the treatment of cases of uterine mania, it is to be conducted on the same general plan with the epilepsy—except that in the mania more may be expected from the effect of stimulating emmenagogues than in analogous instances of epilepsy; and frequent and copious bleedings are not, in general, so necessary or so safe in the former disease as in the latter.

Puerperal mania, and mania arising at the period of the natural cessation of the catamenia are considered as depending upon the same pathological principles as the diseases already described and their treatment is of course to be regulated in the same way.

Chapter VI. 'Of epileptic and maniacal cases, arising from metastasis;' or the translation of morbid action from other structures to the brain. The pathological fact of the production of diseases by the retrocession and translation of diseases has always been admitted, though explained by different authors on different principles. The healing up of old ulcers affords one of the most striking examples of metastasis to the head, and frequently produces maniacal or convulsive disorders. In exanthematous diseases the same relation between the skin and brain is evinced by the various nervous affections which attend upon different states of the eruption. Severe affections of the brain occasionally take place after the sudden disappearance of gouty or rheumatic inflammation of the joints, and of the inflammation of serous membranes as of the pleura and peritoneum. The cerebral symptoms in these cases may be either convulsive or maniacal. There are cases also in which rheumatic complaints have relieved or alternated with diseases of the brain. Where disease has been in this way transferred to the brain, the morbid appearances after

death are generally slight. In such cases Dr Prichard does not recommend copious bleeding. He prefers cold applications to the head, topical bleeding, shaving and blistering the scalp; hot bath, fomentations and stimulants, to the lower extremities, calomel, diaphoretics and enemas. Metastasis also takes place in dropsy, and in these cases the determination of blood to the head is more distinct than in the last, and bleeding is of course more strongly indicated. Where tumours, of long standing have been removed, the determination of fluids which has been required to form and nourish them, is often diverted to the head, and diseases take place there as in the former cases.

The pathology of these cases arising from metastasis is similar in some respects to that of uterine cases. The principal indications of treatment will therefore be analogous, but they are not always to be attained by similar means. Venesection is not so generally applicable in metastatic as in uterine cases; when the metastasis arises, from the suppression of habitual hemorrhages, from the healing of old ulcers or from dropsy, the determination to the brain is so distinct and considerable as to require the free use of this remedy; but where the original disease has been an inflammation of the serous membranes, or one of the exanthemata, topical bleeding is to be preferred. But we are always to be guided by the predominant symptoms of each particular case. Purging may be more freely employed. But the most important indication is to produce a new determination, or restore that which has been suppressed, which is to be done by warm bath, heat, friction, blisters, stimulating applications, issues, &c. Ptyalism from mercury is also an efficacious remedy.

Chapter VII. 'Of epileptic and maniacal cases, depending on a disordered state of the intestinal canal.' These are styled enteric cases. The general opinion is, that they arise by sympathy, and without any other disease of the brain, than what is implied by the expression that the whole nervous system sympathises, in some unknown way, with the irritated portion of the stomach or intestines. It is the opinion of Dr Prichard, however, that there is something more than this; that there is a real affection of the cerebral and nervous fabric itself. This affection he supposes to be a state of morbid plethora in the blood vessels of those organs; whether amounting to inflammation or constituting congestion simply, he does not pretend to determine. This state of disease, differs from that which is the result of metastasis, with which it might be confounded. In metastasis a disorder of a new part takes the place of the old one, which then subsides; but in the present case, on the contrary, disease supervenes in the nervous structure, without in any degree diminishing the

morbid affection which previously existed in the intestinal canal. This disorder appears more frequently to consist in an inflammatory affection of the mucous membrane than is usually supposed.

Enteric mania is one of the most frequent forms of insanity. There is nothing peculiar in those of its symptoms which relate to the mind; but the diseased state of the alimentary canal is very strongly marked. There is generally obstinate and excessive costiveness, or that deceptive kind of diarrhoea which follows costiveness but does not remove the accumulated fæces. The mouth, skin, appetite, urine, countenance, &c. are all affected. Sometimes a diarrhoea affords relief, but in protracted cases, the disease passes on from the mucous membrane, and occasions obstructions in the mesentery; hectic fever and emaciation follow, and the patient dies cachectical or of dropsy.

It has been always known that epilepsy is sometimes occasioned by the presence of irritating matters in the intestinal canal. But it has generally been considered as an accidental and transient occurrence and not as a permanent disease. No one, according to Dr Prichard has been induced to believe that epilepsy is, in the majority of instances, symptomatic of disorder in the natural functions, the brain taking only a secondary part. Where epilepsy has become a permanent complaint, it has been taken for an idiopathic affection; and too little attention has been paid to what has been termed sympathetic epilepsy. He thinks there are many inveterate cases which are of this character, and which are only to be remedied by a removal of the primary complaint and not by the exhibition of medicines of a supposed anti-epileptic power.

Enteric epilepsy may become permanent either from the incurable nature of the original affection of the gastric organs, or when this affection has induced, secondarily, an organic disease in the brain or some part of the nervous system. The longer it has continued, the less the prospect of its removal; but nature sometimes, very unexpectedly, effects a cure after many years, and sometimes it is done by medicine. It often occurs in children, in connexion with worms, and occasionally in adults. Though it is doubtful, except in the case of the tape worm, whether it be actually the worms themselves, or the vitiated secretions and accumulated sordes that accompany worms, which occasions the epilepsy.

This species of epilepsy occurs at every period of life. It arises during infancy and the earlier years of childhood, particularly, at the time of dentition, in connexion with all the various disorders and irritations of the primæ viæ to which those ages are so liable. In these subjects, it is generally conquered by a

proper regimen, and the instances are rare in which it becomes a permanent disease from the period of dentition. When it makes its first appearance between the eighth and fourteenth years, it is frequently much more obstinate. In adults it occurs at every age, and is liable at every period to become a permanent disease.

The characteristics of the fits are not different from those of ordinary epilepsy. The symptoms of disorder in the digestive organs are not so strongly marked as in enteric mania, though still sufficiently distinct.

The principal indication in the treatment of enteric epilepsy, it is obvious, is the correction of the state of the digestive organs. Before attending to this, however, it may be necessary to take measures for the alleviation of the paroxysms themselves, when they are violent, and for this purpose the means which are recommended in ordinary cases are to be employed, until relief of the more urgent symptoms is obtained. Frequently it is safe to begin at once with remedies adapted to the disorder of the digestive organs. Where there is an accumulation of *fæcal* or undigested matter in the stomach and bowels, these are first to be evacuated by emetics and cathartics assisted by injections. But in protracted cases, it is often found that little is to be done by cathartic medicines.

‘A long continued diarrhœa has in many instances, exhausted the strength of the patient, and evacuated the intestinal canal of its more solid contents. At the same time a morbid secretion keeps up the irritation in the system, which the previous circumstances had excited; a depraved appetite, a feeling of emptiness, or sinking, as it is vulgarly termed, with a perpetual craving, induce the patient to fill his stomach from time to time, with unwholesome substances. Flatulence, and eructations, a sallow countenance, a foul tongue, reddened fauces, are indications of this second and often very obstinate stage of the disease.’—p. 261.

Under these circumstances Dr P. recommends gentle evacuation of the alimentary canal by laxatives and occasional emetics. Rhubarb, magnesia, carbonate of soda, aloes, the blue pill, ipecacuanha and antimony, are medicines which he recommends for this purpose, but above all he has found no article so frequently useful as the oil of turpentine. It soon materially changes the whole state of the intestinal canal and at the same time exerts a peculiar sedative or tranquillizing power on the nervous system. This medicine is to be given in the form of an emulsion, to the amount of from half a drachm to two drachms at a dose three times every day. The reputation of oil of turpentine as a remedy in epilepsy, our author believes to have been entirely

owing to its utility in enteric cases; and he also ascribes to their influence on intestinal disorders, the good effects which have been found to follow the use of the nitrate of silver and other metallic salts, and of that class of medicines termed nervines or antispasmodics. Various other articles may be called for by particular symptoms. The efficacy of the whole treatment is promoted by a careful attention to diet and regimen. In general, all vinous and fermented liquors are to be proscribed. Animal food is to be taken in small quantities; and the whole quantity of ingesta should be small and of such kinds as are easily digested and not apt to ferment.

In some cases of enteric epilepsy, the disorder of the alimentary canal consists in an obstinate and long continued costiveness. Under these circumstances frequent enemata and saline purgatives taken in a very dilute state are the best remedies.

In enteric mania, as it depends upon similar causes, we are to pursue a method of treatment founded on the same general principles as that of enteric epilepsy. The principal difference between the treatment adapted to the two diseases, consists in this, that bleeding is less frequently required in the maniacal, than the epileptic affection.

Chapter VIII. 'Epileptic and maniacal cases connected with disease in the liver, and other abdominal viscera.'

The dependence of epileptic fits upon organic disease of any of the larger viscera of the abdomen is involved in some obscurity, but Dr Prichard has witnessed several cases in which on examination, the symptoms which point out the existence of active inflammation or those of chronic disease of the larger abdominal viscera, and particularly of the liver, were discernible; and in these instances remedies which were adapted to relieve the disorder of the abdominal viscera, if they were successful, removed at the same time, or greatly alleviated the affection of the nervous system.

If epilepsy be produced by this cause, it seems highly probable that mania should also be. Medical authors have always been aware of the connexion between morbid states of the parts within the hypochondria and disorders of the mind, particularly dejection or low spirits—whence the term hypochondriasis, as applied to habitual melancholy bordering on insanity. Physicians have often been induced to believe that the symptoms they observed were really the effects of organic disease, whilst in fact they were only dyspeptic in their nature. Some late dissections serve to show however that organic disease in some of the abdominal viscera, is frequently connected with mental disorder. It is said by Dr Cheyne, that 'Mr Todd an accurate anat-

mist, states that in every dissection he has made after idiotism, and mental derangement, (*and he has made upwards of four hundred*) he has found the liver more or less diseased. He observes after insanity generally no great change of colour; but the organ is more bulky, with a thicker edge and always connected by preternatural adhesions, sometimes of great extent to the peritoneum.' Dr Prichard seems to doubt, and with very great reason, whether implicit reliance is to be placed on this account, in its full extent. Within the sphere of his own observation, he remarks, that the instances have not been numerous in which organic disease of the liver or other large viscera, has been discovered in conjunction with maniacal disorders.

Chapter IX. 'Cases of cerebral disease, giving rise to the phenomena of mania or epilepsy; occasioned by the direct operation of noxious agents on the brain and nervous system.' Under this chapter are included; 1. Those cases in which these diseases are produced by mechanical agents, such as wounds, blows, concussions, &c. affecting the brain.

2. Those in which they are occasioned by physical agents which act directly on the brain and nervous system—such as diseases and tumours in the brain—noxious matters taken either accidentally, as poisons, or as medicines—improper diet where predisposition exists, &c. &c.

3. Those in which they are occasioned by the operation of mental emotions, such as convulsions or madness produced by violent terror, &c. &c.

These cases are all to be treated in conformity with the general principles which have been already sufficiently elucidated.

Chapter X. 'Of local convulsions or partial epilepsy.'

Cases of convulsive agitation, attended with affection of the head, more or less severe, sometimes occur, which bear a certain degree of affinity to epilepsy, without entirely coming up to the character of that disease. There are also other cases approaching more nearly in symptoms to leipothymia. They come on with sudden dimness of sight, attended with stupor, and often with vertigo. They attack the patient at uncertain intervals, and after continuing for a short time, leave him labouring under a severe head ache or drowsiness. Dr Prichard considers cases of these kinds as imperfect attempts to produce epilepsy, or as differing from the genuine disorder in some, perhaps trivial, modifications.

Chapter XI. 'Of convulsive tremor.' This is also viewed by our author as a modified form of epilepsy, and is described as occasionally occupying the place of habitual paroxysms.

'I have had under my care,' says he, 'several patients who la-

boured under a disease, consisting in occasional attacks of this description, in which the tremulous agitation of the muscles was so violent, and accompanied with such unpleasant internal sensations, as to occasion considerable alarm to the sufferer. These paroxysms are generally unattended with any sense of chilliness, approaching to the coldness of rigor, though sometimes the extremities, particularly the legs and feet, are cold; while the head, neck, and chest, are hot, and smothered with a profuse transpiration; the head is sometimes affected with vertigo and stupor, and sometimes with violent pain.' p. 393.

There appears to be no peculiarity in the treatment of these cases.

Chapter XII. 'Of somnambulism, or ecstasis.' This has usually been considered rather as displaying a singular modification of the natural state of sleep, than as an indication of disease. Instances of this affection have been recorded more as physiological, than pathological facts. Hoffman seems to have been the first who considered it in any other light, and after him Darwin was led, by his hypothetical notions on the nature of reverie and epilepsy, to conjecture that sleep-walking was connected with the latter. This conjecture, Dr Prichard thinks has been confirmed by recent observations, which prove that somnambulism always indicates a disordered state of the brain, and that it is, in many instances nearly allied to epilepsy. It appears to be a morbid modification of ordinary dreaming. It is a dream so modified, that the dreamer gains the power of pursuing, by voluntary motion, the objects which he is desirous of seeking, or avoiding, in his reverie. Somnambulists sometimes relate as a dream the adventures which really occur to them in sleep-walking. Incubus is another modification of dreaming which appears to be similar in some respects to somnambulism. The subject of it is conscious of an attempt to perform voluntary motion, which fails, and the agitation awakes him. The causes, and consequences to the feelings of the two affections are something similar.

Perception, seems to be the only faculty of the mind which is not at times completely awake during somnambulism, and even this is aroused when a particular voluntary effort is directed towards it. Instances are known of persons who have composed, and have written letters during the paroxysm of this affection. All the other mental powers, would seem, from such cases, to be as active as usual, but that of perception to be in somewhat of an unnatural state, and to remain under that degree of oppression, or suspension, which, perhaps, constitutes the essential character of sleep. Sometimes this faculty is entirely inaccessible to external impressions, so that the sleep-walker cannot be awakened until the fit comes to a close.

Somnambulism is hereditary, and is excited by the same causes as those which excite ordinary dreaming. It is interesting in a physiological point of view, but principally so, says Dr P. 'because similar phenomena display themselves during the waking hours, or in connexion with some constitutional disorder.' With regard to this subject he makes the two following observations.

'1. Several cases are on record, and some have occurred in my own practice, in which a person, in his waking hours, has been suddenly seized with a fit of insensibility to external impressions; during which his condition in every respect, resembled that of the sleep-walker. These fits suddenly terminate; the person is awakened, and generally recollects little or nothing of what has passed. As this affection cannot properly be denominated somnambulism, I shall distinguish it by the term *ecstasis*.

'2. Both somnambulism and *ecstasis*, but particularly, as I believe, the latter, are frequently connected with a disposition to epilepsy. Where they do not co-exist with epilepsy, they often seem to stand in the place of it, and to depend on those particular circumstances of the constitution which are the fundamental causes of epilepsy.' p.407.

This affection seems to be a sort of connecting link between mania and epilepsy; in some of the most observable circumstances its paroxysms resembling epileptic attacks, at the same time that the phenomena which display themselves during the fit are nearly allied to those of some forms of mania. Of this affection Dr P. relates a remarkable case. It occurred in a boy between 13 and 14 years of age and succeeded to a considerable degree of mental anxiety and labour. He suddenly exclaimed that some one was beating him on the head—he staggered and fell: this was the commencement of a paroxysm which continued several hours and was followed by a series of similar attacks. They occurred in the fore part of the day, leaving him almost well in the afternoon. They were preceded by a mist or darkness before his eyes, after which he fell into a reverie, and became more or less unconscious of external impressions. Sometimes he repeated lessons which he had actually before learnt at school, as if to his tutor. Sometimes he appeared as if playing on a flute, blowing and moving his fingers, though without any thing in his hand; and if a flute were given him, would play a tune upon it. Occasionally he would call to other boys whom he fancied were accompanying him, telling them they played out of tune. Sometimes he seemed to be playing at cricket and would run after the ball. When stopped, in running by a wall, he would continue to move his arms and legs, as if still in motion, and unaware that his progress was arrested. He held long conversations, as if with his father, making pauses, during which he appeared to hear replies—which conversations his father recollected to have had

with him three years before. He often had his eyes open, but evidently without perceiving any object. Yet it was apparent that he did sometimes perceive, for when other boys played the flute with him, it was evident that he heard and listened to them. If interrupted in his reverie, he would sometimes scream and express impatience.

At the close of the paroxysm he started suddenly and became immediately conscious, but retained no recollection of what had occurred; he expressed sometimes surprise at the place in which he found himself and at the lateness of the hour. He generally slept soundly, but once or twice walked in his sleep. No account is given of the termination of the case, which was not under the care of our author, but there were subsequently some indications of a maniacal disposition.

Some other cases are given illustrative of the connexion of somnambulism, ecstasis and epilepsy with each other; some, which occurred to Dr P. himself, and others selected from the writings of other authors. With regard to the treatment of cases of this description, where any remedies are deemed necessary, it must be conducted according to the principles already laid down in the preceding chapters of this work.

We have thus presented our readers with an analysis of this highly interesting and valuable work of Dr Prichard, and have endeavoured to give as accurate a view of its contents as our limits would admit. The different subjects are enriched by the details of a great number of cases from which the general principles, pathological and practical, laid down in the work have been deduced, and by which they are illustrated. The author was previously well known to the scientific world as the author of a learned and truly philosophical work on the Physical History of Man; the volume we have just closed, will, we doubt not, add to his deserved and well earned reputation. V.

SELECTIONS.

[THE following article is taken from the Edinburgh Medical and Surgical Journal for July 1823, article, Medical Extracts No. X. The high character given of this article by the editor of that Journal, in the opening paragraph, is fully supported by the facts, and reasonings contained in it, and we cannot but recommend it as highly worthy the particular attention of our readers.]

Appearance of Scurvy in the Penitentiary at Millbank.

THE number and extent, and, we trust we may add, the value, of the Communications for which we are indebted to our numerous correspondents, have occasioned a long interruption of this department of our Journal. Although the same circumstances continue, we must apologise to our friends, for giving the precedence, on the present occasion, to one of the most interesting documents that has ever fallen under our notice; and we are well pleased that it is in our power to communicate to the profession in general the important information which, in its present shape of a Parliamentary paper, is accessible only to a few.

We shall not recapitulate the history of the Penitentiary at Millbank, nor state the purposes for which it was intended, as these are generally known. It will, however, be necessary to premise a few circumstances which are alluded to in the Report, which is to form the principal part of this article, and which are necessary to render it complete.

In a report of the Committee of the General Penitentiary at Millbank, ordered by the House of Commons, on 3d March 1819, to be printed, we were told that the Prison had continued to be very healthy. Out of an average number of 223 prisoners, only one male and two females had died; and in each of these cases, the disease by which the death was occasioned had been contracted before the prisoners came into the Penitentiary; and at the time of making the Report, there was in the Infirmary only six males and eight females.

The prisoners were divided into two classes, according to their behaviour; the second being the more orderly. They were made to rise at half past five in the morning, from Lady-Day to Michaelmas, and at daybreak, during the remainder of the year. Half an hour was allowed for dressing and cleaning their persons, which was enforced. They then began to work. At 9 *a. m.* they got their breakfast. At half past nine they resumed their work. At one they dined, and an hour was allow-

ed for dinner, air and exercise. At two they returned to work. At sunset in winter, and at five in spring and autumn, and at six in summer they discontinued their work. In winter they were immediately locked up; but in the other seasons of the year, an hour was again allowed for air and exercise; and their supper was served to them on being locked up for the night. At this time, 1819, their food was regulated by the following Dietary.

“*Daily*,— $1\frac{1}{2}$ lb. of bread, made of such meal as the Committee may from time to time direct, for every male prisoner above the age of 18 years; and 1 lb. for every other prisoner.

For Breakfast,	- - -	1 pint of hot gruel or porridge.
For Dinner	Sundays Tuesdays Thursdays Saturdays	6 ounces of clods, stickings, or other coarse pieces of beef (without bone, and after boiling,) with half a pint of the broth made therefrom.
		1 lb. of boiled potatoes.
		1 quart of broth for the males, and 1 pint for the females, thickened with Scotch barley, rice, potatoes, or peas, with the addition of cabbages, turnips, or other cheap vegetables.
		1 lb. of boiled potatoes.
	Mondays Wednesdays Fridays	1 pint of hot gruel or porridge.
	- - -	
For Supper	- - -	1 pint of hot gruel or porridge.

N. B. Prisoners may reserve such part of the provisions previously delivered out, as they please for their supper.

Salt and pepper as the committee shall from time to time direct.

The only liquor allowed to prisoners in health (except broth, gruel, or porridge) shall be water.

Prisoners confined to bread and water diet for punishment, shall be allowed such quantity of bread as the surgeon may think necessary.’

‘Prisoners employed in works of extraordinary labour, or under circumstances which may render it necessary, may be allowed an addition to the quantity of their provisions, by the direction of the Committee.

‘*Memorandum*.—Female prisoners employed in the Wash-house, shall be allowed an addition of $\frac{1}{2}$ lb. of bread daily, and a double allowance of meat on Tuesdays in every week, until the further orders of the Committee.

‘The Wardswomen are allowed an addition of $\frac{1}{2}$ lb. bread daily, until further orders.’

On the 31st of December 1822, there were 778 prisoners,—452 males and 326 females. On the 17th March 1823, there were 529 males and 327 females, in all, 856. All the male patients of the first class were now employed either in grinding corn, or raising water, twice a day.

The Dietary of the prisoners had been the subject of much animadversion, as being too abundant; and it was certainly more ample than that in most other prisons. A new Dietary was therefore settled upon the best medical opinion, and was introduced on the 4th of July 1822.

‘The *Morning*—Three quarters of a pound of Bread, and one pint of Gruel for the Males, and nine ounces of Bread, and three quarters of a pint of Gruel for the Females.

‘*Noon*—Three quarters of a Pound of Bread and one pint of Soup for the Males, and nine ounces of Bread and three quarters of a Pint of Soup for the Females.

‘The *Evening*—One pint of Soup for the Males, and three quarters of a pint for the Females.

‘The Soup to be made with Ox heads, in lieu of other meat, in the proportion of one Ox head for about 100 Male prisoners, and the same for about 120 Female prisoners; and to be thickened with Vegetables and Peas, or Barley alternately, either weekly or daily, as may be found most convenient.

‘The Committee to substitute, at their discretion, Potatoes for Bread, at the rate of 1 lb. of Potatoes for $\frac{1}{2}$ lb. of Bread.

‘The only Liquor allowed to Prisoners in health (except Broth or Gruel) shall be Water.

‘Prisoners confined to Bread and Water Diet for punishment, shall be allowed such quantity of Bread as the Surgeon may think necessary.

‘Prisoners employed in works of extraordinary labour, or under circumstances which may render it necessary, may be allowed an addition to the quantity of their provisions, by the direction of the Committee.

‘Wardsmen, and those employed in the kitchen and bakehouse, shall be allowed $\frac{1}{2}$ lb. of bread extra, daily.

‘Female prisoners employed in the laundry shall be allowed $1\frac{1}{2}$ lb. of bread daily, with a double allowance of soup at dinner and supper, on the days in which they are employed in washing, viz. Mondays, Tuesdays, and Wednesdays.

‘Wardswomen, and those employed in the kitchen, shall be allowed $1\frac{1}{2}$ lb. of bread daily.

‘The Committee may diminish the quantity of soup, or the number of days on which soup shall be given, at their discretion, giving such other provisions in lieu thereof as they may think fit.’

During the year 1822, it is stated that the patients [prisoners] were generally healthy. During the first six months, 14 deaths occurred, or 8 males and 6 females; and, during the last six months, 8 deaths, or 2 males and 6 females; or, in all, 10 males and 12 females, or 22 deaths out of an average of 743 patients; being nearly 3 *per cent.*, or 1 in $33\frac{1}{2}$.

Between the 1st January 1823, and 17th March, when the Report was made, 13 deaths had occurred, 2 males in January, 3 males and 3 females towards the latter end of February, and 4 males and 1 female in the first seventeen days of March.

At the close of 1822, although the deaths had not increased during the last two quarters, there was a much greater number of sick prisoners than usual in the Female Infirmary; the complaints appeared to be in general of such a nature as were not likely to arise from the food of the prisoners, being chiefly colds and pulmonary affections; and it was stated, in the quarterly Report of the health of the prisoners, by the Medical Superintendent, dated on the 10th January 1823, that one only of the female prisoners was then seriously ill. During the first six weeks of the present year, the sickness among the females decreased very considerably, the numbers in the Infirmary being reduced from above sixty, to between thirty and forty; and no death occurred in that part of the prison before the 14th of February. Between the 17th and 20th February, a rapid increase of sickness took place among the males, who had, up to that time, been in general healthy, as well as in the part of the prison occupied by females; and many of the complaints appeared to be such as might not, improbably, be connected with the food of the prisoners, or with a want of sufficient air and exercise. Under these circumstances, it was directed, without waiting for the sanction of the Judges to any new rule for that purpose, that a considerable increase should take place in the time allowed the prisoners for walking in their court-yards; and the Committee also thought it expedient to call in (by a Resolution passed the 28th February, at a Meeting specially summoned for the purpose of taking into consideration the state of the Prison in regard to health) two regular physicians, Dr Roget and Dr Latham, junior, in addition to the ordinary medical attendants of the prison, partly with a view of leaving nothing untried for the recovery of the prisoners now labouring under the effects of illness; and partly to ascertain the causes of the illness, in order that the most likely measures might be taken to prevent its recurrence, if it should appear to have arisen in any degree from the diet or discipline of the prison.'

On the 5th of April, Drs Latham and Roget, the physicians

consulted, gave in the following Report, which, on account of the valuable facts it records, and the clear and able manner in which they are stated, we reprint without abridgment; nor indeed could it be condensed without injury to its value.

‘In conformity with the instructions conveyed to us, in your resolution of the 28th of February last, we have visited the Penitentiary daily, since the 1st of March; we have carefully and repeatedly examined, at different times, the state of health of each individual prisoner; we have taken constant charge of the sick in the infirmaries; we have communicated continually with your medical officers, Mr Hutchison and Mr Pratt, and frequently with the other officers of the establishment; we have made whatever inquiries seemed requisite to obtain correct information concerning the nature and extent, and the origin and progress of the disease lately prevalent in the Penitentiary, the causes which probably contributed to its production, and the means most expedient for its cure, and most likely to prevent its recurrence; and we have agreed upon the following Report.

‘*State of the Prison during the Winter.*—From the testimony of the officers of the establishment, and particularly of the matron, it appears, that during the last autumn the general health of the prisoners began visibly to decline. They became pale and languid, and thin and feeble. Those employed in tasks requiring much bodily exertion, were unequal to the same quantity of work as formerly. Those at the mill could grind less corn; those at the pump could raise less water. From time to time several of the laundry-women fainted under their work; and the business of the laundry could only be carried on by continually changing the hands engaged in it. Such was the general state of the prisoners throughout the winter.

‘Still, notwithstanding this remarkable depression of the general health, there appeared among them no manifest signs of any peculiar disease. The number of sick received into the infirmaries, did not much exceed the proportion which, in the winters of former years, it had borne to the total number of prisoners; and their disorders were those commonly incident to cold weather. It was not until the beginning of February, that any marks of scurvy were reported by Mr Hutchison, as having been noticed by him on a few individuals in the infirmaries. And here it may be observed, that these marks are, at their first appearance, peculiarly apt to escape discovery, unless the attention be particularly directed towards them; and that they often exist for a long time, entirely unnoticed by the patient himself. Between the 14th of February and the 1st of March, no less than forty-eight prisoners came into the infirmaries, affected chiefly with

diarrhœa and dysentery. The diarrhœa and dysentery were of a peculiar kind, and were suspected to have a connexion with the scorbutic disease. At this time also, all these various affections were found spreading extensively, but in different degrees of severity, throughout the prison.

And during the first Week in March.—On the 28th of February, our assistance was called for; and having learned the facts already detailed, we began our examination of the prison and the infirmaries on the 1st of March. We found the prevailing disease to be the same with that which is known by the name of *Sea Scurvy*, and which is characterized by livid spots, or blotches of the skin, especially on the lower extremities. Conjoined with the scurvy, in almost every case there was diarrhœa or dysentery. There were, indeed, a few instances of scurvy without disorder of the bowels; and moreover, numerous instances occurred of diarrhœa and dysentery, where no marks of scurvy had appeared. But still, whether the scurvy subsisted alone, or the diarrhœa or dysentery subsisted alone, or whether they were conjoined in the same individuals, there was found in all those who suffered from either or from both, the same constitutional derangement, denoted by a sallow countenance an impaired digestion, diminished muscular strength, a feeble circulation, various degrees of nervous affection, as tremors, cramps, or spasms, and various degrees of mental despondency.

Nature of the prevailing Disease.—These facts seemed to lead directly to the belief, that the diarrhœa and dysentery and scurvy had their origin in the same morbid state of the constitution. In this belief we were more and more confirmed by further observation; and we soon had the means of determining with certainty, that they, in reality constituted one and the same disease. We examined, by dissection, the bodies of two prisoners who died dysenteric, and found, in various parts of the intestines, the morbid appearances called, in medical language, *Ecchymoses*; that is, spots of the same kind as those which, on the skin, constitute scurvy. We found, in fact, an absolute scurvy of the bowels, of which the diarrhœa or dysentery was only a symptom and consequence.

Its Extent.—With regard to the extent of this disease, we found more than one half of the whole number of prisoners affected by it, in one or other, or in all its forms; but the proportion was not the same among the prisoners of different sexes, or belonging to different classes. The women were affected much more extensively than the men; and of both men and women, the second class, which is composed of those who have been longest in confinement, was affected in a much larger proportion

than the first class, which comprises those who have been more recently imprisoned. Of the women, about two thirds were ill of the disease; of the men, rather less than one half. Of the women in the first class, one-half were ill; of those in the second class, five-sevenths. Of the men in the first class, above one third were ill; of those in the second class, rather more than one-half. The exact numbers are stated in the Table subjoined to this Report.

'Peculiar Exemptions from the Disease.—Some striking exemptions require to be noticed. Of the 24 prisoners employed in the kitchens (13 men and 11 women) belonging to the class which had suffered most extensively, all were free from the disease, excepting three, one woman and two men. These three had been promoted to the kitchen within four days. It is proper to add, that the officers and servants of the establishment, together with their families, residing within the walls of the prison, and amounting to 106 individuals, were universally exempt from the disease.

'Rise and Progress of the Disease.—We took some pains to ascertain the period at which the disease in question might be considered as having commenced, and the gradations by which it had reached its present extent and aggravation. It appeared reasonable to assume, that whenever, upon the feeble and drooping condition observed among the prisoners throughout the winter diarrhœa or dysentery, or scurvy, supervened, then the disease was fully constituted. With respect to the scurvy, it was scarcely possible to assign the exact time at which it commenced, on account of the insidious mode of its attack, and the facility with which it may elude observation on its first appearance. But we have fully satisfied ourselves that there existed, among the female prisoners, a few cases of decided scurvy as early as the month of November. Among the men, we cannot trace any instance of scurvy back to a remoter period than two months. It is certain, however, that it was not until after Christmas that the scurvy had spread very extensively among either sex. About the middle of January, the instances had become numerous among the women, and among the men, about the middle of February; and it continued to increase progressively in both sexes, until the first week in March.

'The diarrhœa and dysentery appear, in their origin and progress, to have kept pace with the scorbutic symptoms. Upon inquiry among the prisoners, we found that some of them had been occasionally suffering from diarrhœa before Christmas; but the instances being few, and the cases yielding readily to common remedies, they did not excite any alarm, and were naturally

imputed to accidental causes. Under ordinary circumstances, such a conclusion might have been fairly admitted; but considering what the general health of the prisoners then was, and with our knowledge of what has since occurred, we cannot but suspect that, in some of these instances, the diarrhœa belonged to the same disease, of which it has since been found to constitute the principal and most formidable symptom.

‘In the course of January, the instances of diarrhœa were too numerous to be attributable to common or accidental causes. But, even then, it had not become matter of general complaint, for it was not attended with much pain, and in most of the sufferers it continued for a short period only, and then ceased; but it renewed its attacks from time to time on the same individual, gradually, though insensibly, impairing his strength. In this manner, through the month of January, many of the prisoners were sustaining a severe injury to their constitution, without being conscious of more than an accidental ailment, and without applying for relief.

‘Increasing daily in extent and severity, it at length became matter of complaint; and at the latter end of February, diarrhœa and dysentery constituted a large proportion of the cases in the infirmaries. Three deaths from the disease occurred between the 14th of February and the 1st of March, the day on which we made our first examination of the prison and the infirmaries. In the prison, the disease had reached the extent already mentioned; and in the infirmaries there were 64 patients labouring under the disease, in one or other of its forms.

‘INQUIRY INTO THE CAUSE OF THE DISEASE.

‘*Its Independence on the Situation of the Prison.*—In inquiring into the causes of the disease in question, we think it right to state our persuasion, that the situation of the prison has not contributed to its production. First, because, if this had been the case, it is reasonable to suppose that the same disease would have occurred in former years, whereas it has never appeared until the present winter. Secondly, had this been the case, the officers of the prison, being equally obnoxious with the prisoners to any injurious influence of situation, could not have been universally exempt, as it appears they have been, from the same disease. Thirdly, because, if the situation of the prison be injurious, it must be presumed to be so in consequence of marsh miasmata arising in its neighbourhood; yet since its establishment, the prison has been altogether free from those diseases which marsh miasmata confessedly engender. Fourthly, because marsh miasmata always arise during the hot, and never during the cold seasons of the year; and the diseases which they engender belong to the same seasons. Lastly, because, although scurvy and dysentery have

undoubtedly been found prevalent in marshy districts, yet when marsh miasmata have produced them, they have been associated with intermittent fevers, and have occurred only at the hot seasons of the year. It may possibly be suspected, that the simple dampness of the situation may have contributed something to the disease. But we can state with confidence, that every part of the prison is singularly dry; and that in no cell or passage, on no floor or ceiling, or wall of the prison, have we found the smallest stain or appearance of moisture.

Influence of Diet in its Production.—Several circumstances respecting the disease in question, which have been already mentioned, seemed to limit the causes of its production to such as could have had their operation exclusively upon the prisoners, and especially at the present season, and now for the first time. One such cause is found, we conceive, in the diet of the prison. During the last eight months, the diet was different from what it had been ever since its establishment. The change which took place in July last, reduced the animal part of the diet almost to nothing. In a soup made of peas or barley, ox heads were boiled, in the proportion of one ox head to 100 male, and one to 220 [120?] female prisoners; and we found, upon enquiry, that the meat of one ox head weighed, upon an average, eight pounds, which, being divided among an hundred, allows only an ounce and a quarter for each prisoner. This new diet had been continued until the present time; and to it we mainly ascribe the production of the disease in question.

Influence of Cold.—It does, nevertheless, appear to us, that the diet of the prison has not itself alone been productive of the disease, but that it required the concurrence of other causes, of which the severity of the winter was probably the chief. The origin of the disease has been traced to the commencement of the cold weather, and its progress and increase have kept pace with it. There are, moreover, two circumstances which confirm us in the belief, that diet and cold have been concurrent causes. The sufferers were most numerous in that class of prisoners which were most exposed to the influence of cold, from the lower temperature of the cells in which they pass the night; showing, that where both causes most conspicuously concurred, the disease was most extensively produced. Yet those individuals of that class who, sleeping in the same cells, and exposed to the same low temperature by night, were employed in the kitchen by day, and had access to richer diet, were universally exempt; showing, that where one cause was withdrawn, the other was of itself inadequate to produce the disease.

Means employed to counteract the Disease.—Such being the

character and extent of the disease in the penitentiary, and such its most probable causes, we proceeded to adopt those measures for counteracting it, which its own nature, and the opinion we entertained of its origin, seemed to suggest. We ordered an immediate change in the diet of the prison. In place of peas and barley soup for dinner, we substituted a daily allowance of four ounces of flesh meat, and eight ounces of rice daily for each prisoner, and white bread instead of brown; and, as the cheapest and best antiscorbutic article of diet which could be procured at this season of the year, we ordered three oranges for every prisoner daily one at each meal.

‘It is unnecessary to detail the methods of medical treatment employed in the infirmaries.

‘*Gradual Decline of the Disease.*—On our examinations of the prison between the 12th and the 19th of March, we found the general aspect of the prisoners visibly improved. The taskmasters informed us, that they were more cheerful, and did more work; and particularly, that those employed at the mill could grind one-third more flour. The scorbutic marks had, in almost every case, begun to decline; and in many of the slighter cases had absolutely disappeared.

‘On our general surveys of the prison between the 31st of March and the 4th of April, we could not find more than fifty individuals of both sexes, on whom any marks of scurvy remained; and on the greater number of these, they were so slight as hardly to be detected.

‘The diarrhoea and dysentery have, upon the whole, kept pace in their decline with the gradual disappearance of the scorbutic spots. On each of our examinations of the prison, we found them relieved or cured nearly in the same proportion; and on our last examination, there were not remaining so many as twenty cases of bowel complaints in the whole prison.

‘*State of the Infirmaries.*—It is proper to remark, that the diarrhoea and dysentery, being the most formidable part of the disease, was that for which medical treatment was especially required. Therefore, of the prisoners thus affected, we have constantly received as many into the infirmaries as there was room to accommodate, whether their cases were severe or slight. At the period when, as we have stated, the disease was upon the decline, that is, during the last weeks of March, it will be observed, that there was a greater number of prisoners in the infirmaries than at the period, when the disease, in all its forms, was at its greatest aggravation and extent, that is, during the first week in March. The truth is, that when we began our attendance, we found only the severer cases of bowel complaints in the infirmaries; but as

soon as we had learned, by the dissection of two patients who died dysenteric, that the disease tended to produce irreparable organic mischief of the intestines, we thought it right to bring as many cases as possible under strict medical treatment; and moreover, as soon as we had learned, in the course of our observations, the great liability of the diarrhœa and dysentery to return, we thought it right to use the greatest possible vigilance over particular cases, during the period of their convalescence. Hence many in whom we most strongly suspected this proneness to relapse, were still kept in the infirmaries, after the actual symptoms of their disease had disappeared; and a convalescent ward, in addition to the ordinary accommodation of the infirmaries, was opened for their benefit. These are the circumstances that are to be borne in mind, in order to reconcile the apparent inconsistency of the number in the infirmaries being greater at the very time when the disease in the prison was daily and rapidly declining.

‘From the 1st of March to the present day, 222 patients have been admitted into the infirmaries, making, with the 110 already there, a total of 332 patients. Of these, eleven have died, six of dysentery, and the remaining five of diseases unconnected with the present disease. At present, the total number of patients in the infirmaries is 101, namely, 64 women and 37 men. Of this number we consider that 36 are convalescent, and exhibit no symptom of disease; and they are retained in the infirmaries only by way of precaution against relapse: 19 only are still suffering the symptoms of the disease; and 46 are affected with other complaints.

‘*Suggestions with regard to Diet.*—It remains with us to fulfil the wishes of the Committee, by suggesting to them some considerations respecting Diet. With regard to the Diet of the prisoners undergoing punishment for crimes, we presume the object to be, that they should have enough for nourishment and health, and nothing more. How much, and what quality of food will actually suffice for this purpose, can be deduced only from numerous and careful experiments. But no such experiments, as far as we know, have ever been made. There are certainly none upon record, to which we can refer for information. We beg, therefore, that the observations we venture to make, and the recommendations we offer, respecting diet, may be accepted as the result of the best consideration we can give to the subject, in the absence of positive experiments.

‘Practically, the main question seems to be, Can animal food be safely excluded from prisons, and particularly from the Penitentiary? We are aware that a large portion of the labouring ag-

gricultural population of this country subsists altogether upon vegetable food, and is generally reputed vigorous and healthy ; and we admit the justice of the inference, that an exclusively vegetable diet is *generally* wholesome ; and we allow, moreover, that to submit those confined in prisons to such a diet, is a justifiable experiment. But still it is merely an experiment ; and, considering that every circumstance of the present condition and previous habits of those imprisoned for felonious crimes, is as different as possible from the simple condition and simple habits of an agricultural population, we should not be surprised to find that the experiment generally failed. At the Penitentiary there are, we conceive, peculiar obstacles to its success. These consist chiefly in the long periods of confinement, and the great number of prisoners.

‘To prisoners in a house of correction, whose period of confinement is limited to a few months, little hazard would result from an habitually scanty diet. People may be under-nourished for a short time, with impunity ; but prisoners who are in the course of a confinement of five, or seven, or ten years (and none are condemned to less in the Penitentiary,) cannot safely be subjected to the same system. Many injurious influences will arise in the course of years, which a few months would not produce. There will be changes and inclemencies of season to be provided against, and the heavy pressure of moral circumstances ; for which, although they cannot be strictly appreciated, large allowances must be made. The great number of prisoners at the Penitentiary, independently of the contingencies to which they are exposed in the course of a long confinement, renders such an experiment peculiarly hazardous. Restriction to a vegetable diet, or to a diet that is considered just sufficient for nourishment and health, requires a constant vigilance over the health of each individual prisoner. Such a vigilance is the only security against the possible evils that may arise. In a prison containing 50 prisoners, a diet even of bread and water may be adopted without hazard, because there the requisite degree of vigilance can be obtained ; and the medical superintendant of such a prison would become so familiar with the aspect of individuals, as to see at once the earliest indications of disease in any one of them. But in a prison containing 900 or 1000 prisoners, the requisite degree of vigilance would be impossible ; and, for the want of it, a great hazard would be incurred by adopting the same system of diet.

‘For these reasons, and especially because the diet of the last eight months, in which the animal matter was reduced almost to nothing, has mainly contributed, as we conceive, to produce the present extensive disease, we recommend that, in future, animal food should make a larger part of the diet at the Penitentiary.

‘ Upon the subject of Diet, we recommend :

‘ 1st, That half a pound of flesh meat, without bone, be allowed to every prisoner once a week, on Sunday.

‘ 2d, That, in addition, half a pound of flesh meat be allowed to every prisoner once a fortnight, on any day that the Committee may think proper.

‘ 3d, That white bread should always be given to the prisoners, that is, bread made of the best wheat flour, and free from all impurities.

‘ 4th, That the prisoners should have one meal each day entirely of solid food ; that is, if they have gruel for breakfast, and gruel for supper, that their dinner should not be of soups or broth ; but that, of whatever vegetable or animal substances it consist, they should be given in a solid form.

‘ As to the kind of vegetable suitable for the principal meal of the prisoners, a certain latitude must be allowed in regard to those which are most easily procured. All the vegetables in common use are wholesome. Potatoes and rice can be procured at all times, and fortunately they are the most nutritious.

‘ We recommend, that the present allowance of four ounces of flesh meat, with one orange daily, be continued to every prisoner for a month ; that afterwards four ounces of flesh meat be given on alternate days for a fortnight ; and that then, if the general state of the prison be healthy, it be put upon the ordinary diet that shall be determined by the Committee.

‘ In closing our Report, we beg to express our firm conviction, that there is now no obstacle to the entire reestablishment of the healthy state of the Penitentiary. We must nevertheless add, that, for several weeks to come, occasional cases of bowel complaint will probably still be found to arise in the prison ; we suggest, therefore, the necessity of great vigilance and frequent inspection, that none of such cases may pass undiscovered ; and we recommend, that every case, as soon as it is noticed, be removed to the infirmary, and subjected to the strictest medical treatment. Security against relapse will best be obtained by whatever is calculated to strengthen the constitutions of those who have already suffered, and especially by still employing the means which have hitherto mainly contributed to their recovery. It is with this view that we have recommended the continuance of the present allowance of animal food for another month.

‘ We have examined the accounts which have been transmitted to us from the Secretary of State’s office, of the diet used in different prisons in England, contained in the answers

to questions which were sent to the visiting magistrates, on this and other subjects connected with the health of prisoners. But on comparing the different plans of diet detailed in those answers, which have as yet reached us, with the objects and system of the General Penitentiary, we do not conceive that any of them will be at all suitable to that establishment. We have to observe, however, that answers to the above mentioned questions have been received only from seven of the prisons that have been written to for information on these subjects.

‘P. M. LATHAM, M.D.

‘P. M. ROGET, M.D.’

5th April, 1823.

[The use of the Tread-Wheel or Tread-Mill in Prisons has excited a good deal of interest in England, and numerous papers in the Medical Journals, and some pamphlets have been printed on the subject. In some of these publications, the use of the wheel has been strongly recommended, as a safe and salutary kind of prison labour, or punishment. In others it has been deprecated as highly injurious. The Tread-Wheel has been used at least in one prison in this country, with what effects, however, we have not learnt. The subject is an interesting one to physicians and to the public, and we now publish two papers by two physicians in England, which contain some of the opposite views which are held there on this subject.]

Observations on the Tread-Mill. By BENJ. HUTCHINSON, Esq. Addressed to the Rev. JOHN THOMAS BECHIN, Prebendary of the Collegiate Church of Southwell, and WILLIAM WYLDE, Esq. Visiting Justices of the Nottinghamshire House of Correction, at Southwell.

GENTLEMEN,—Having had the honour of holding the important and responsible situation of surgeon to the Nottinghamshire House of Correction at Southwell, during the last twenty-eight years, I cannot but feel peculiarly interested in every the most minute circumstance connected with the improvement and preservation of the health of the unfortunate inhabitants of that excellently-managed prison.

Influenced by these impressions, I have the honour of addressing to you such observations as have been elicited by a recent perusal of Sir John Cox Hippisley's "Supplementary Note on the Use of the Tread-Mill in Prisons;" and I trust you will allow me to add, that these few remarks are submitted to

your perusal with every delicacy of feeling, resulting from the well-known and highly respectable character of the author of this "Supplementary Note."

I believe the axiom is universally admitted, that bodily exercise is essentially requisite to the preservation and improvement of health, so long as the bounds of moderation are not encroached upon. It is also equally manifest, that exercise taken too violently is attended with the same disadvantages as a total want of it. On this subject I am convinced that I need not fear any opposition of opinion, and it will therefore be unavailing to dwell longer on its discussion.

The first objection, of a medical character, to the use of the tread-wheel, in the "Supplementary Note" above alluded to, states that, in the Coldbath-fields' prison, there was scarcely an individual of the group who did not complain of pain in the back of their legs, in their shoulders, thighs, and in the parts in conjunction with the groins. I freely admit that the operation of the wheel is productive of certain muscular pains, the natural effect of considerable muscular exertion; not, however, to an extent exceeding that which, I imagine, is not only highly salutary, but in every respect truly desirable. As to the accident on the machinery, by which the boys at work on another wheel in the same prison had their feet miserably crushed, I can only assert that accidents of this description have not happened in the Nottinghamshire House of Correction; neither do I see any probability of their occurrence, excepting by the extreme carelessness of those on the wheel.

I confess myself happy in this opportunity of adding my feeble testimony to the justly-merited eulogiums contained in Sir John Cox Hippisley's "Supplementary Note," on the talents and erudition of Dr Mason Good, with whose professional writings I have been long and well acquainted, and from which I have derived very important information: they fully entitle him to the grateful feeling of his brethren, and to the literary credit so fairly and honourably awarded him. It cannot, therefore, be otherwise than a matter of regret to be compelled to differ essentially from his opinion on a subject, neither admitting nor embracing any speculative or theoretical argument, but depending solely on accuracy of statement and attentive observation. I shall therefore, I trust, Gentlemen, stand excused for thus noticing what I conceive to be the erroneous opinions of Dr Good on the much-agitated topic of the use of the tread-wheel, as an instrument of punishment in our prisons.

Dr Good agrees in opinion with the gentlemen composing the Committee for Prison Discipline, that the tread-mill is an

object of peculiar terror. I also am of opinion with Dr Good, that the objects incurring this punishment have a dread of its fatiguing labour, probably in the exact proportion that was wished and expected by those who suggested this highly beneficial mode of obviating the repetition of crime. One among the multitude of Dr Good's objections to the use of this mill is 'the tortuous and irksome attitude of treading upon the toes up an endless and nearly-perpendicular hill; the heels, which should chiefly bear the weight of the body, rendered useless; the natural line of gravity dislocated; the hands forced into a rigid and benumbing grasp; and the extensor muscles of the legs for ever on a painful, and, necessarily therefore, on a mischievous and morbid stretch.' My answer to these strong observations of Dr Good is the result of an accurate and most attentive inspection of the effects produced by the exercise of the tread-mill: I must therefore be excused in offering an opinion of a diametrically opposite nature. I am compelled to declare, that the attitude is neither 'tortuous' nor 'irksome,' and that, by an examination of the prisoners on the tread-mill, it will uniformly be observed that the weight of the body by no means rests on the toes, excepting by the will of the prisoner; but that, on the contrary, nearly two-thirds of the length of the foot are engaged in performing this exercise of ascent,—very essentially relieving, therefore, the muscular and tendinous exertion and extension which would be requisite, were the toes only made the points of the superincumbent weight: and, indeed, I am fully prepared to state that exercise, conducted in the manner pointed out by Dr Good, could be continued but a very short time, and would be productive of never-ending lameness and misery to the prisoner who had suffered this torture. A very great relief is also offered to the experienced mill-treader, (an experience fully obtained by the practice of a very few hours,) in his ability to change at pleasure his position on the wheel, to a lateral, dorsal, and semi-dorsal position. In the lateral position of his body, he is enabled to place the whole length of his feet on the stepping-boards, thereby affording very great relief from fatigue to the various large muscles and tendons of the thighs, legs, and feet, and securing him from any severe spasmodic contraction of those parts, the probable consequence of long-continued exertion. The natural line of gravity, during the operation of the tread-mill, is by no means dislocated: in many instances, indeed, I have observed that it has not been in the slightest degree interrupted, the body preserving the same line as in any other act of locomotion. It has never occurred to me to hear any complaint of the hands being

forced into a rigid and benumbing grasp: neither, from the degree of force requisite to support the body, can I imagine that any such effects can ever be produced. My experience has also taught me that the extensor muscles of the legs have never sustained any 'mischievous and morbid stretch;' and I must beg permission to declare, that, from a long and attentive consideration of the effects of muscular motion, it is impossible to conceive that any such inconveniences are at all likely to be the result. That the tread-wheel is an instrument of peculiar terror, cannot but be considered an argument of the most forcible kind in its favour. So long as punishments excite no dread, their efficiency in the prevention of crime cannot be otherwise than comparatively trifling and nugatory. The concluding observations of Dr Good, in Sir John Cox Hippisley's 'Supplementary Note,' are followed by a letter from one of his distinguished medical friends, senior physician to the King, and formerly a physician in the navy. This gentleman, Sir Gilbert Blane, is in no respect adverse to the use of the tread-wheel; he merely thinks that there can be no necessity for making this the exclusive mode of punishing the inmates of our prisons: he appears to imagine that the tread-wheel might operate as a severe punishment for offences of a more aggravated nature, and the hand-crank, or winch machinery, for those of minor atrocity.

The surgeon of the prison at Shepton Mallet entertains some fears that the operation of the tread-mill may render the prisoner unable to work at any other labour for some time after his discharge from prison, from the effects produced not only upon his arms, but upon the principal muscles of the body. After the most attentive examination of the prisoners who have laboured at the tread-mill, I shall deem myself fully authorised to assert that no such pernicious effect need to be apprehended. The extension of the muscles of the arms is neither so great nor so long continued, as to produce any morbid or deranged action in these important parts of the human frame. These remarks are the result of accurate observation, and not elicited by any preconceived theory, or predilection for the instrument of punishment under consideration.

With your permission, I will now, Gentlemen, beg leave to make a remark on the extract of a letter from the chairman of the Quarter Sessions of the county of Surrey, dated the 30th of December, 1822, intimating that he had made inquiry of the governor of the House of Correction at Brixton, whether he ever knew, or heard from any of the prisoners under his care, that the labour of the tread-mill had affected their limbs or

muscles in any way so as to be injurious to them? That his reply was prompt and distinct: he said he never heard of such a complaint, nor indeed of any complaint of the kind, from any of them; and that a woman, who went to work with a rheumatic complaint, had declared that her rheumatism was completely cured. On this particular case I have to remark, that a man of the name of Pearson, a prisoner in the Nottinghamshire House of Correction, made a complaint to me, about ten days past, of suffering most severely from chronic rheumatism in one of his lower limbs, accompanied with some tumefaction of the joints, and indeed of the whole structure of this limb. Among other means of relief proposed, I told him that he should be excused from the labour of the tread-mill a few days; and I was giving the necessary directions to the turnkey, when the man particularly requested that he might be allowed to continue his exercise on the wheel, as his pains were very considerably alleviated during this movement of the limb; and he has regularly continued it with manifest advantage.

I perfectly concur in opinion with the surgeon of the Brixton House of Correction, that varicose veins of the lower extremities are much more likely to be prevented than produced by exercise of this description. That hernia, or other injury to the bodies of the prisoners, cannot be the consequence of the tread-mill exercise, more frequently than labour of any other description, is equally clear; the muscles and other parts of the human frame, the seats of these accidents, sustaining no violence, and no unnatural action of any description.

Dr Good again, in an extract of a letter dated January 17th, 1823, says, that Mr —, the surgeon of the Brixton House of Correction, will never advise the discipline he has recommended, that of walking on *tiptoe* up high and almost perpendicular hills to any patient of his in his private practice. I shall again take the liberty of repeating, that, had Dr Good attentively examined the real state of the mode of stepping on the tread-mill, he would immediately have discerned that what I have before advanced is the plain and positive fact, that two-thirds of the foot is engaged in performing this labour of ascent; that walking on *tiptoe* up high and almost perpendicular hills, is not the exercise produced by this instrument; and that accidents, of any description, can be the effect only of the extreme of carelessness and inattention on the part of the prisoners. On this subject, the opinions of Sir Gilbert Blane, Sir William Blizard, and of Dr Good, are entitled to, and will doubtless obtain, that share of attention and respect to which their talents and characters confer so just and well-merited a claim.

My own sentiments and assertions are the result of actual observation, and of close and diligent inquiry during my professional attendance and duties on the sick prisoners of the Nottinghamshire House of Correction. They are respectfully offered, Gentlemen, to your consideration, under the assurance of your interest in every matter connected with the discipline and the health of these unfortunate offenders against the laws of their country.

I believe it to be the almost unanimous opinion of the medical officers of the navy, with many of the most respectable of whom I have had frequent opportunities of conversing, that seamen are not more subject to varicose affections of the legs, or to herniæ, than any other class of people accustomed to the laborious exercise of their muscles; and the fair and very impartial statement of Sir John Cox Hippisley on this particular point appears in perfect unison with my own observations.

The copies of the communications made to the Secretary of State for the Home Department, respecting the use of tread-wheels in gaols or houses of correction, which were ordered by the House of Commons to be printed in March 1823, consist of communications from twenty different counties, in which the use of the tread-wheel had been then adopted. The result of this mass of most respectable evidence speaks loudly in favour of the highly salutary and safe operation of this mode of preventing a repetition of crime. It very clearly points out the absence of any the most insignificant accidents, but what were the effects of carelessness on the part of the prisoners; and that this species of labour tends to the preservation and improvement of the health of the prisoners, rather than in any respect to injure it, either by inducing herniæ, varicose swellings of the legs, pectoral diseases, or internal affections of any denomination.

In a statement ordered to be printed by the House of Commons. the 2d of May, 1823, entitled 'Further Papers relating to the Penitentiary at Millbank,' Mr Copland Hutchison gives the following testimony in favour of the operation of the treadmill:—'I consider it my duty, therefore, to make this statement to the committee, and to refer them to my Quarterly Report, dated October 4th last, where it will be found that I have adverted to this subject, and also in communications to the committee of an earlier date. The pump and mill now in operation in the Penitentiary give exercise only to the muscles of the arms and trunk; whereas, such a machine as the tread-mill would give exercise to every voluntary muscle of the body, and,

in my opinion, would greatly contribute to the preservation of the health of the prisoners in this establishment.'

Allow me, Gentlemen, to conclude with the assurance, that, in giving you the trouble of perusing this letter, I am actuated solely, I trust, by a proper sense of my duty as medical attendant of the Nottinghamshire House of Correction; a part of which duty I believe myself to be discharging by submitting to you my opinion of the salutary operation of the instrument in question. I am fully aware that I am opposing the sentiments and assertions of gentlemen whose talents I must admire, and by whose labours and learning I have been essentially instructed. Yet permit me to repeat, that I trouble you with a detail of facts only; the subject admitting neither of discussion nor argument.

I have the honour of subscribing myself, Gentlemen, your obedient servant,

BENJ. HUTCHINSON,

Fellow of the Royal College of Surgeons.

Southwell; June 1, 1823.

Observations on the Tread-Wheel. Contained in a Letter to the Editors; by J. M. GOOD, M.D. F.R.S. &c. &c.

I AM glad to find, by an introduction of Mr Hutchinson's letter to you on the discipline of the tread-wheel, that you feel this subject of sufficient importance in a medical point of view, to be brought before the public. The short address from Sir John Cox Hippisley, Bart. to his friend the Minister of the Home Department, upon which this letter is founded, and in the drawing up of which I was called upon professionally to take a part, was written with considerable haste, and when the subject was new, in order that its contents might be laid before the assembled magistrates of most of the counties of England, at the last Epiphany sessions; and for this purpose it was put gratuitously into circulation, but never published. Since this period, so much additional matter of considerable importance, and fully establishing the facts and opinions of the unpublished address, have been obtained by the same distinguished statesman, that he has felt it his duty to put the whole together in a second address to Mr Peel, and to lay it before the public. I herewith beg your acceptance of a copy of this address, and shall take care to forward another copy of it to Mr Hutchinson, in order that he may be put into possession of the whole case; and shall leave it to your own judgment to bring the entire question before your readers, in whatever way you may think

best adapted for the purpose of free discussion; and, so long as such discussion is conducted in the spirit of candour and liberality which Mr Hutchinson has evinced, it cannot fail of being highly instrumental to the improvement of prison discipline, and of developing many points of importance within the range of forensic medicine.

How long the tread-wheel has been established in the House of Correction at Southwell, or how many are, upon an average, employed upon it, though points of the utmost moment in the present enquiry, are not even glanced at by Mr Hutchinson in his letter upon the subject; who seems also to have forgotten to mention whether females are sentenced to the same labour or not. As no communication from the visiting justices of the Nottinghamshire House of Correction appears among the official returns, by order of the House of Commons, made to the Secretary of State for the Home Department, respecting the use of tread-wheels in all gaols or houses of correction, in which they were established on January 18th of the present year, it is most probable that this establishment has taken place *since*; and, as one of the chief difficulties we have had to encounter is the very short period of time in which this instrument has been at work *any where*, it is obvious that no general conclusion could be drawn from what has occurred in the house of correction before us, had the scale of employment been even much larger than there is reason to calculate it at, and had female prisoners been subjected to the labour; which it does not appear that Mr Hutchinson has ventured to recommend, notwithstanding his general approbation of the tread-wheel discipline.

Beyond the walls of this prison, and the period of time in which the tread-machine has been working there, Mr Hutchinson's experience does not seem to have travelled; and hence, so far as relates to the *facts* he has been an eye-witness to, they form no collision whatever with the mass of *general facts* and *opinions* brought forward in Sir John Hippisley's publication, which makes ample allowance for exemptions and procrastinated evils; while the *tendency* to mischief still continues to operate, and has sufficiently shown itself wherever there has been time and opportunity.

How far Mr Hutchinson's views of the effects of such a kind of exercise as the tread-wheel imposes, in relation to hernias and varicose tumors of the legs, may be correct, he will learn, and the public also will learn, from an extensive and interesting branch of inquiry, contained in Sir John's pamphlet, directly bearing upon this subject, and probably new to many of your readers. Mr Hutchinson, however, is quite correct in stating

that the prisoners at work upon the wheel have it in their power, instead of treading with their toes, or the fore-part of the foot only, to twist their knees outward, and bring a larger portion of the foot into action, without which he is ready to admit that the exercise 'could be continued but a very short time, and would be productive of never-ending lameness and misery to the prisoner who had suffered this torture.' In the pamphlet now sent you will find, however, that, though this change of position can be accomplished, and is accomplished, for a few moments at times, it is not persevered in by the prisoners in Cold-bath Fields, who are as dextrous as most of the kingdom, and cannot be persevered in for more than a few moments at a time, on account of the pain such a twist of the knees produces, and which compels the prisoner to return abruptly to his original and ordinary bearing upon the fore-part of the foot alone : and hence, indeed, the violent heat, exhaustion, and perspiration, into which he is constantly thrown by an exercise of more than ten minutes or a quarter of an hour, although his progression is so slow, that his entire day's walk up hill, and this without any burden to carry, does not exceed *two miles or two miles and a half for the whole day* : and hence also that necessity which is found every where, on the introduction of tread-wheels, for a richer diet. This at present consists, in the House of Correction in Cold-bath Fields, of half a pound of solid flesh every other day, with good animal soup in the intermediate day, besides a sufficiency of bread and other farinaceous food ; and Mr Webb, the prison-surgeon, whose official Report shows ostensibly that he is not unfriendly to the tread-wheel, has told me, within a very few days, that, without this increased diet, the workers on the wheel would be soon in the situation of the convicts at the Millbank Penitentiary. All which facts speak sufficiently for themselves.

It was in order to determine how far it might be advisable to enforce the erection of tread-wheels in all our prisons by a parliamentary enactment, that the visiting magistrates were lately called upon, by the order of the House of Commons just adverted to, to make returns to the office of the Home Secretary of the effects actually produced, wherever they had obtained an establishment. Mr Hutchinson conceives that 'this mass of most respectable evidence speaks loudly in favour of the highly salutary and safe operation of this mode of preventing a repetition of crime.' He will find, in the pamphlet I am about to send him, that there are others who have examined it very accurately, and think differently ; and, by turning to the third

volume, p. 151, of the 'Medical Jurisprudence' of Dr PARIS and Mr FONBLANQUE, he will also find that the individuals whose opinions are given in Sir John Hippisley's pamphlet, are not the only ones who think differently; for the same general views of the mischief of the tread-wheel discipline are taken by those able and intelligent writers with the official reports before the public. But, which is of far more weight upon the subject, by turning to the newly-passed Gaol Act, the passage of which through the legislature was delayed till these returns were received, in order that it might contain certain clauses enforcing or recommending an adoption of the tread-wheel generally, if they should be found to justify such a measure: he will perceive that, so differently have his Majesty's ministers, and even Parliament itself, thought of the result of these communications, that every such clause was withdrawn from the first; the tread-wheel has been abandoned by the statutes; and not one single word urged in its favour during the long passing of the Bill backwards and forwards through the two houses. Nor can any thing exceed the candour which has been exhibited by his Majesty's ministers upon this point, because it is very well known that several of them were antecedently most strenuous advocates for the tread-wheel machine.

Guildford-street; August 4, 1823.

Contagion of the Spanish Yellow Fever.—The *Diario di Barcelona*, No. 208, contains an interesting document of the opinions of several Medical Corporations and distinguished practitioners in Spain with regard to this much agitated question. This document professes to be the result of an investigation appointed by the Cortes in December 1822, to be undertaken by the authorities of the cities which had been infected by the epidemic. The Junta of Physicians and the Medico-Chirurgical Junta of Cadiz, the Junta of Physicians at Malaga, and at Antequerra, and the Supreme Junta of Minorca declare, that the fever is eminently contagious. The municipality of Coin, however, observe, that though several persons affected with fever had arrived there from the districts where it prevailed, no one in that city had been infected. At Barcelona thirty-two physicians believe it is contagious, and ten that it is not. The Junta of Malaga assert, that if the air is charged with effluvia, it may infect at the distance of *thirty or forty paces*. The Juntas of Cadiz, Malaga, and Antequerra maintain, that it is always exotic. And all agree that there is no safety but in flight.—*Bulletin de la Soc. Philom.* Oct. 1822. p. 153.

Abyssinian Remedy for Tænia.—The leaves and flowers of an unknown plant are said to have been long employed with instant and invariable success in Abyssinia for destroying the tape-worm. Some fragments of them having been procured by Dr Brayer, who witnessed their effects at Constantinople, were submitted to the inspection of M. Kunth of the King's Garden at Paris, and proved to belong to a new genus in the family of Rosaceæ, resembling the *Agrimonia*. It has been named, in honour of Dr Brayer, the *Brayera anthelmintica*. It is a small shrub, denominated in Abyssinia *cabotz*. It has branched, downy peduncles, alternate leaves, and quaternate flowers, surrounded with an involucre. The Philomathic Society request the attention of travellers to this subject.—*Ibid.* p. 154.

Therapeutic effects of Hyoscyamus.—‘Until it shall be held absolutely necessary to procure a patient a rending headach, with vertigo, phantastic reveries, burning thirst, loss of sight, perversion of the taste, insuperable disgust for every sort of food or drink—without a single wink of sleep, this remedy must continue utterly useless; and in the mean time, it should be expunged from every Pharmacopœia.’—*Archives Gén. de Méd.* Mars 1823. Such is the conclusion to which M. Fouquier of La Charité has been led by experiments with the hyoscyamus on 200 of his patients. He denies that it ever acts decidedly as a hypnotic. In opposition to his observations, we may remark, that for a long time it has been freely used in the Infirmary of this city for inducing sleep; and that, as far as we have ourselves observed, it is as effectual as opium itself, and never produces the effects observed at La Charité. The experiments of Fouquier tend to show, that the extract prepared from the expressed juice, and the aqueous extract procured by macerating the dried plant in water at 100° F., and evaporating the product by the water-bath, are nearly or absolutely inert. But M. Planche prepared for him an alcoholic extract of great power, by maceration in weak alcohol at 82°. Of this extract he seems to have given from ten to thirty grains for a dose; and always observed it produce the disagreeable symptoms we have mentioned. The form under which it is used in this country is that of tincture, very similar to that from which Planche prepared his extract. Does the alcohol qualify its properties and render it more purely hypnotic?

Impregnation.—‘M. Mondat regards the *aura seminalis* as the active part of the semen; and quotes, in support of his opinion, the following decisive experiments performed at Turin by himself and two other physiologists. The semen of a dog having

been received into the cup of a funnel bent for the purpose, its tubular part, ten inches long, was thrust three or four inches into the vagina of a bitch in heat, to convey to the uterus the aura seminalis. In eighteen out of thirty trials, impregnation was produced; and the same result was obtained upon two mares.—*Journal Universel. Fevr. 1828.*

Fallopian Conception.—A stout woman, who had previously had two children, became pregnant for the third time, and after the usual interval was seized with labour pains; but nothing was discharged except a bloody fluid. All the customary sequelæ of delivery succeeded. The catamenia appeared in four weeks, and returned regularly for nine months; and during the period she was constantly affected with a yellowish discharge from the the vagina, diarrhœa, tenesmus, and acute pain shooting from the anterior part of the tumour to the sacrum. Fourteen months after her abortive labour, her sufferings were very much aggravated. She was affected with constant fever and frequent attacks of shivering, followed by a sense of burning heat, especially towards the sacrum. At last several shapeless masses of bone escaped by the rectum, accompanied with bloody purulent matter; and these were found to have entered the gut by a hole half an inch in diameter, and nearly two inches above the anus. She then obtained some relief; but had occasional attacks of pain, accompanied with the discharge of bones, till eighteen months afterwards. The symptoms then gradually disappeared, and she recovered completely—*Dr Julia. Journ. Univ. Fevr. 1823.*

Diagnosis of Adhesion of the Pericardium of the Heart.—When the pericardium adheres to the surface of the heart, a shock may be felt in the left hypochondrium, succeeded by a manifest depression or drawing in of the integuments. The formation of the concavity is synchronous with the dilatation of the arteries, and the shock with their contraction. During respiration the concavity is deepest, but the shock is feeblest; and the reverse is observed during expiration. The cause of these phenomena appears to be the connexion of the heart to the diaphragm through the medium of the adhering pericardium, in consequence of which the diaphragm must follow in part the motions of the apex of the heart. When the ventricles contract, (and the arteries dilate,) the heart is shortened, and its point rises; when the auricles contract, (and the arteries also,) the heart is lengthened, and its point descends. The diaphragm opposite the point must follow these motions, and the alternate impulse is communicated to the adjoining integuments. The concavity is deepest during inspiration, because, during the descent of the diaphragm,

the apex of the heart is farthest removed from the place it must occupy when the ventricles contract, and the dragging of the diaphragm consequently most powerful. But the shock is weakest because the auricles which produce it are farthest removed from the part on which the shock is primarily impressed. All these circumstances are evidently reversed during expiration.—*Dr Sander. Arch. Gén. de Méd. Fevr. 1823.*

Carditis caused by Poisoning with Arsenic.—A man ate a bit of bread, and a sausage and a half, poisoned with arsenic. In two or three hours he was seized with vomiting and diarrhoea. The usual symptoms succeeded, and he died 48 hours after the fatal repast. The whole body was rigid. The stomach was natural externally, internally of a deep red colour, not moved by washing or scraping, and near the duodenum there were several roundish specks, varying in size from that of sixpence to that of a crown piece, of a brownish hue, but whether ecchymosis or eschars, could not be determined. The villous coat was swelled there, but not feeble. The œsophagus was natural. The duodenum and the upper part of the jejunum had a deep red colour, and all the other intestines were strongly injected. The left cavities of the heart were of a mottled red colour; and in the ventricle, especially on its *columnæ*, there were many small crimson specks which penetrated into the substance of the parietes. The right cavities had a deep reddish-black colour, and the *columnæ* of the ventricle showed specks like the left ventricle, but less numerous or distinct. The aorta and other vessels were natural. Arsenic was found by analysis in the remains of suspected food, in the vomited matter, and adhering to the inside of the stomach, *though the man had vomited incessantly for more than forty hours.* The author adds, that he had previously found in experiments with arsenic upon animals, that the contractility of the heart was destroyed, and its tissue often inflamed.—*Orfila, Arch. Gén. de Méd. Fevr. 1823.*

Animal Heat.—Dulong has lately repeated the well-known experiments of Lavoisier and Delaplace upon this subject, chiefly with the view of ascertaining whether the quantity of caloric, developed by the oxygen which disappears in respiration, is equivalent to the quantity given out by the body. He employed for that purpose a modification of Count Rumford's water calorimeter. The result was, that the quantity of caloric disengaged by the conversion of oxygen into carbonic acid, is equal in carnivorous animals to between 49 and 55 parts in 100, of the heat disengaged by the whole body during the same interval of time;

and in frugivorous animals, betwixt 65 and 75 parts; and that the whole quantity of caloric disengaged by the formation of carbonic acid and water together, is equivalent to between 69 and 80 parts only. He thence concludes that the animal heat is greater than can be accounted for by the fixing of oxygen during respiration, and therefore, that some other source of calorification must exist.—*Journal de Physiol.* Jan. 1823.

Absorption.—Not long ago, Magendie inferred from a few experiments, which however were of a very equivocal nature, that venous absorption takes place by simple filtration through the parietes of the vessels. His inferences have derived some confirmation from a series of very interesting experiments lately read before the French Institute by M. Fodéra. And if we are to credit this physiologist, the whole process of absorption and exhalation are nothing else than a simple filtering of fluids through the various membranes of the body. We may pass over at present the experiments he has made to prove, that filtration takes place through the dead membranes; for the fact has been long known; and, besides, it furnishes no proof that a similar process can be carried on during life. But M. Fodéra has also shown, that substances introduced into the pleura during life, will be soon found in the abdomen; and that when they are injected into the peritoneum, they may be found in no long time in the sac of the pleura. Thus, he injected into the left pleura of a rabbit, a solution of the hydrocyanate of potass, and into the peritoneum a solution of sulphate of iron; and after keeping the animal three quarters of an hour on the left side, he laid open both the cavities. The epiploon, the suspensory ligament of the liver, and the mesenteric glands were tinged blue, the peritoneal coat of the stomach and duodenum were interspersed with blue spots, and a few specks were visible even on the rest of the intestines. The substernal lymphatic glands, and the whole tendinous part of the diaphragm were uniformly blue, and the muscular part of the diaphragm was spotted like the intestines. The thoracic duct was filled with a blue liquid, &c. These phenomena take place slowly. But it appears, that, with the aid of galvanism, the transudation may be produced immediately. Thus, if a solution of hydrocyanate of potass, enclosed in a loop of intestine, be made to communicate with one end of a galvanic battery, and a cloth dipped in sulphate of iron, and applied on the outside of the intestine, be connected with the opposite end, the intestine or the cloth will be immediately dyed blue, according to the direction in which the galvanic current is transmitted. From these and other experiments, the author concludes that *exhalation*

and absorption take place by simple transudation and imbibition, and depend on the capillarity of the tissues.

His inferences seem to us premature, though it is hardly fair to judge from the short analysis of his Memoir hitherto published. Simple mechanical filtration will certainly never account for the singular and complicated phenomena produced by the processes of absorption and exhalation; and many of the facts adduced in support of his inferences may be explained on the supposition, that the substances pass from one part of the body through the medium of the circulation. At the same time it would be unreasonable to doubt the occasional recurrence of transudation in the living body. In addition to the researches of Fodéra and Magendie, our readers will find an unequivocal proof of it related in the note to page 178 of our last number.—*Journ. de Physiol.* Jan. 1823.

On the Aborigines of New Holland. By an ARMY MEDICAL OFFICER.—We have here an interesting, but short, history of the manners, customs, &c. of a people to whom but little attention has been paid by the naturalist or historian: the only portion, however, which we can permit ourselves to extract, is an account of the imperfect knowledge of medicine and surgery which they possess. They are said to have a few diseases, but such as arise among those near towns, from intemperance and neglect of themselves. Like the white inhabitants, they are subject to bowel complaints: the gum of the mimosa they consider a sovereign remedy in these disorders. Our author was not able to ascertain whether they obtained the knowledge of any medicinal virtue which this gum possesses, from the colonists, or vice versa: both one and the other, however, make use of it, and consider it of great service in dysentery. The root of the fern they esteem diuretic, and use it in gonorrhœa and other affections of the urinary organs. This the author believes to be the extent of their medical skill: their native doctors never venture farther. The chief part of their art is confined to charms which consist in repeating some set of words over the patient; but the meaning of them, or their supposed efficacy, the author could gain no other information than that they deem it right always to undergo such a ceremony when they are very ill. The head man of the tribe is very generally doctor. They are fond of applying to the European medical men for advice, but they can seldom be made to take medicine. A glass of Bengal rum, or in the colonial phraseology, ‘bull,’ is their great panacea, to which they resort whenever they can procure it. In this they are said to follow implicitly the practice of their civilized brethren, ‘among whom Bengal

rum forms the only enjoyment when well, and the only medicine when ill.'

The surgery of the native tribes is said to be equally simple with their medical practice, but more efficacious. When bitten by snakes, which is with them a frequent occurrence, they make a ligature above the wound, scarify it with a shell or any sharp instrument which they possess, and afterwards suck it for a considerable time. The women exercise this branch of the art, and when they are at hand, the colonists, who meet with accidents of this kind, always apply to them; and if this simple operation be performed soon after the injury has been inflicted, the deleterious effects of the poison are generally prevented.

The latter part of the following sentence, in the extensive sense used by the author, appears to us, if not incredible, at least unaccountable.

'In the quarrels of one tribe with another, and sometimes in squabbles of a more domestic kind, they frequently receive very severe wounds, inflicted both by their clubs, or *waddies*, and their spears; yet it rarely happens that any serious injury follows. I have seen deep and ragged wounds of the scalp penetrating to the bone, heal in a wonderfully short time, with hardly any attention on the part of the patient, and no confinement; and fractures of the upper extremities do well, and *are cured*, without *any deformity* and without *any application*, and with just as little care on their part, or attention on that of their friends.' *Lon. Med. and Phys. Jour.*

Case of Tic Douloureux, successfully treated by Carbonate of Iron. By JOHN EVANS BEALE, Esq. Plaistow.—This is an additional instance of the successful administration of the remedy introduced by Mr Hutchinson of Southwell, for the cure of tic douloureux. A man aged 55, of spare habit, but healthy constitution, applied to Mr Beale on the 13th of May, 1822, complaining of severe paroxysms of pain, extending over the whole of one side of the face, and particularly affecting the lips; so that their approximation, in eating or speaking, was attended with most severe suffering; the sensations he compared to an electric shock, continuing for about a minute, and repeated as often as twenty or thirty times in an hour. The whole of the branches of the fifth pair of nerves, distributed over the affected side of the face, were evidently the seat of pain. He was unable to assign any cause for the disease. As the tongue indicated derangement of the digestive functions, Mr Beale ordered a saline purging mixture to be taken at intervals in the day: calomel, combined with antimony and opium, at bed-time; and leeches to be applied to the

face. These medicines were repeated on the 14th, with the addition of hyoscyamus. On the 15th, blisters were applied behind the ears, and fomentations to the face. The leeches were repeated on the 16th. On the following day the symptoms were aggravated, and his tongue was more furred than when Mr Beale first saw him. On the 17th he commenced the taking of the carbonate of iron, in doses of two scruples, three times a day; and after the first twenty-four hours he stated the pain to be diminished both in force and frequency; the powders were continued until the 29th of the same month, at which time he was entirely free from pain.—*Ibid.*

New Treatment of Croup. By PROFESSOR RECAMIER.—This gentleman has informed the *Académie Royale de Médecine*, of Paris, that he has lately succeeded in curing three cases of croup, with threatened suffocation, by means of the injection of milk and water, by the mouth and nose at the same time, so as to excite violent convulsions of the throat and muscles of the larynx. In all the three cases, portions of false membrane were expelled. One of the children, however, died; but the death is accounted for by the presence of a *dissolution* of the stomach. We have no account in the *Revue Médicale* at what period of the disease this extraordinary mode of treatment was adopted; it must of course have been used after the complaint had persisted for some time.—*Revue Médicale.* Juin.

Ulceration of the Cæcum.—A gentleman of good family attended the king in his tour to Scotland last year, and there received a strain apparently in the right groin, whilst jumping off a coach. Having also caught a severe cold at this time, he was laid up at Edinburgh with a large swelling in the right inguinal region, for which, leeches, fomentations, aperients, &c. were used, and he recovered so far as to go a shooting and to use much exercise during the last winter, without any inconvenience. About the middle of May last a swelling appeared in the same place again, and an eminent surgeon of this metropolis was consulted, who considered it to be an incipient abscess from which no danger was to be apprehended. It was opened on Sunday the 1st of June. On Monday he had a severe rigor, and on Tuesday much fever. On this day bark and other substances which he had lately swallowed, were observed on the poultice: this alarmed the patient excessively; but the surgeon did not consider it as of a serious consequence, for some days, through the fæces came constantly through the wound. Till Sunday, the 8th of June the surgeon considered that his patient was going on well;

but on that day he perceived symptoms which led him to apprehend more mischief than a mere communication with the intestinal canal. A physician was called in; but the patient rapidly sank, and expired on Tuesday the 10th of June. The following were the minutes of dissection left with the family,

'Appearances observed on inspecting the body of S. S——, Esq. June 11, 1823. In the lower part of the abdomen, immediately above the right groin, there was a cluster of enlarged absorbent glands connected with the abscess. The ulceration which had taken place in the formation of the abscess had extended into the cœcum, or beginning of the great intestine, in consequence of which there was a large opening, forming a communication between the cœcum and the external wound.

'The inner membrane of the intestine in the neighbourhood of the ulceration, to a considerable extent, was in a state of inflammation, being of a very dark colour, in consequence of the vessels being loaded with blood. There were no other appearances of the disease in the abdomen.

'In the chest, the lungs were found unnaturally turgid with blood; and the surface of the right lung towards the posterior part was covered by a thin layer of coagulated lymph. In the cavity of the pleura, on the right side of the chest, there were about six ounces of serous fluid.'—*Medical-Chirurgical Review.*

Case of Rupture of the Diaphragm. By M. JULES CLOQUET.—At a late meeting of the *Académie Royale de Médecine* M. Cloquet communicated, verbally, a case of this nature. The subject of it was a man aged forty-five years, of an active habit, whose chest had been strongly compressed between the wheels of two carriages. When received into the *Hôpital St Louis*, immediately after the accident, he complained of intolerable pain in the chest. The respiration was laborious, difficult, and interrupted; the pulse quick and intermittent; the face was swollen, of a livid appearance, and having a particular expression of pain. The most active antiphlogistic treatment was adopted, notwithstanding which he died thirty-six hours after the accident. On dissection, M. Cloquet found that the soft parts external to the chest presented no læsion—that several of the ribs were fractured; that the diaphragm was considerably ruptured in the left half; and that the rupture extended to the centre; the pericardium was torn in all its anterior and inferior portions; the whole of the stomach, and the greatest part of the colon, had passed into the left cavity of the chest, and were immediately in contact with the heart and lung; this latter organ was contracted, and drawn up towards the vertebral column. The chest was filled with blood.—*Archives générales de Médecine.* Juin.

Case of successful Operation for Salivary Fistula. By Professor BECLARD. At the same sitting, M. Beclard communicated, verbally, to the *Académie*, a case of salivary fistula, cured by forming an internal fistula. This latter was made by passing into the internal part of the substance of the cheek, a leaden style, so as to reach the excretory duct at the part where it was interrupted. The external wound, rendered raw by excision, was united by the twisted suture. In this case, as well as in a former, which M. Beclard communicated to the *Académie* two years before, the cure took place without any other deformity than a small vertical, linear, cicatrix.—*Ibid.*

Fatal effects of Fear.—A man of colour, of middle age, rather above the common stature, and apparently in good health, was received into the London Hospital, affected with aneurism of the femoral artery of a moderate size: he readily assented to an operation, but on entering the theatre, fainted away. Some wine was given to him, which he directly swallowed, and the operation was proceeded in: the artery was cut down upon, and the ligature applied but not tightened: during the operation it was observed that there was no pulsation in the tumour, but this was accounted for from the fainting; before tying it, it was suggested by the operator to wait until pulsation was resumed: some increased attention was then paid to arouse the dormant energies, and it was remarked, that the syncope had continued an unusual time; on a more attentive observation, and after many attempts to rouse him, he was found dead; all the usual means were tried without effect.

On *dissection*, no appearance presented itself to account for death, except that both sides of the heart were found empty, and the lungs turgid with blood.—*Med. Intel.*

On the therapeutical properties of Strychnine. By M. ANDRAL, fils.—The strychnine which was administered to the subjects of the following Cases, was as pure as could be obtained, and was entirely deprived of brucine,* to which it remained united in the

* Brucine is an organic salifiable base, discovered by M. M. Pelletier and Caventou, in the bark known under the name of the spurious angustura, it is formed by preparing an alcoholic extract of this bark; dissolving this extract in a quantity of very cold water, and filtering it, in order to separate the fatty matter. The colouring matter is precipitated by the acetate of lead—the excess of lead, by sulphuretted hydrogen—and finally, the brucine, by an alkaline base. For this purpose, magnesia may be advantageously employed. The magnesian precipitate slightly washed and dried, is treated by alcohol, which dissolves the brucine; this substance is then obtained by evaporation. As the brucine is but little soluble, the magnesian precipitate should not be too much washed. M. Andral considers that six grains of brucine are required to produce the effects of one grain of impure strychnine, or of a quarter of a grain of pure.—*En. Med. Intel.*

first preparations which M. Pelletier made of it. It was given under the form of pills, some containing a twelfth of a grain (gr. .068 troy,) only, of the alkali, and others a sixteenth (gr. .0512 troy).

Case 1st. A house painter, having several times been affected with cholic, was attacked with that species of paralysis, so common to those who are engaged in handling the preparations of lead. The paralysis consists, as is well known, in a great weakness of the extensor muscles of the hand, whence results its continual flexion upon the carpus, and the impossibility of extending it by the act of the will alone. The paralysis had existed about a month, and had been ineffectually combated by stimulating frictions made upon the fore arm. This individual took two pills of a twelfth of a grain (gr. .068 troy,) one in the morning, the other in the evening. He experienced, according to his expression, a sort of painful trembling in the extensor muscles. On the three following days, the same dose was attended with like effects. On the 5th, 6th, and 7th day, four pills were given, two in the morning and two at night. Slight shaking of the limbs; spasmodic contraction of the extensors of the fingers, during which the latter continued strongly reverted upon the back of the hand; the paralysis seemed to diminish.

Pills of a sixteenth of a grain (gr. .0512 troy) each, were then administered; at first one, and afterwards four at the end of eight days. During this time he experienced violent shocks: He soon left the hospital, retaining only a slight weakness in the hands.

In this individual, the dose of the strychnine, could have been elevated without danger to more than two thirds of a grain (gr. .5469 troy) a day.

Case 3d. A German, of hale constitution, but who had laboured for a considerable length of time under a paralysis of the extensors of both hands, produced by the influence of saturnine preparations, took a pill, consisting of a twelfth of a grain, (gr. .068 troy,) without feeling any effect from it; he took as many as three pills, also, with impunity. At the dose of a third of a grain, (gr. .273 troy,) he began to experience some shocks: somewhat too speedily he took a little more than a grain (gr. .820 troy,) of the strychnine. At this dose he experienced such forcible contractions, that it was obliged to be reduced to a grain. This man, however, did not receive any relief.—*Journal de Physiologie.* Juillet.

On the employment of Brucine. By the same author.—The pills of brucine, which were administered to the subjects of the

following Cases, contained each, a half grain of this alkali (gr. .42 troy.) From experiments made on animals, M. Andral was satisfied that no unpleasant symptoms could be produced by this dose.

Case 1st. A mixer of colours had laboured under a paralysis of the hands, for about two months; he took one pill without feeling any effect from it; two pills produced some very slight shocks in the arms; four pills occasioned tolerably strong contractions. He was discharged cured.

Case 2d. A mixer of colours, also paralytic, took as many as four grains (gr. 3.281 troy) of brucine, without any sensible effect; at the dose of four grains and a half (gr. 3.69 troy,) he experienced a sort of unpleasant, creeping, sensation in the arms; and in the dose of five grains (gr. 4.1 troy,) somewhat strong shocks, without any serious symptom. The paralysis was remarkably diminished.

Case 3d. A house painter, paralysed in both hands, did not begin to experience any shocks until the dose of two grains (gr. 1.64 troy.) Three grains (gr. 2.461) occasioned a somewhat strong trismus. The patient only experienced a trifling amelioration.

Case 4th. A worker in lead, and paralysed like the preceding, experienced a tetanic stiffness in all his limbs, after having three grains and a half (gr. 2.87 troy) of brucine. He was not relieved.

Case 5th. A paraplegic, after having taken only two grains (gr. 1.64 troy) of brucine, felt a violent pain in the soles of his feet; his lower limbs were the seat of violent contractions. His condition was not at all improved.

From the preceding observations on strychnine, and on brucine, M. Andral deduces the following corollaries:

1st. Pure strychnine acts upon man like the extract of *nux vomica*, but with a much greater intensity.

2dly. The action of the strychnine is so energetic, that it ought only to be employed with the greatest precautions. Its effects, moreover, vary in a remarkable manner, according to the susceptibility of individuals. Thus in one, the twelfth of a grain (gr. .0683 troy) was sufficient for the production of serious symptoms, whilst in another, the dose of strychnine could be raised almost with impunity, to a little more than a grain (than gr. 0.820 troy.)

3dly. The brucine acts upon man as upon animals. Although much less energetic than strychnine, since it may be begun with, without inconvenience, in the dose of half a grain (gr. 0.42 troy,) it may be advantageously substituted, as a medicine, for the alkali of the *nux vomica*.

4thly. Considered as regards their therapeutical properties, strychnine and brucine shew themselves more or less efficacious, according to the kind of paralysis which we may endeavour to combat with them. When employed in those cases where paralysis is connected with an inflammatory condition of the brain or marrow, they may very probably aggravate the symptoms. In those subjects who have remained hemiplegic after cerebral hemorrhage, the employment of these alkalies is most commonly useless: it is even to be feared that it may produce an inflammation of the cerebral substance round the apoplectic *fomes*. But there are cases in which, as if by a sort of habit, the paralysis would seem still to persist after the absorption of the extravasation; such cases may yield to the alkalies of the *nux vomica* or of the *angustura spuria*. Finally, these same alkalies seem to be especially efficacious against paralysis, the cause of which cannot be referred to a læsion of the nervous centres; such as, more particularly, the species of paralysis to which individuals are so frequently subject, who meddle with the preparations of lead.

‘The preceding cases,’ says M. Andral, ‘attest the efficacy of strychnine, or of brucine in this species of palsy: of nine individuals attacked with it, six have been cured, or at least relieved. I could also cite here other cases of paralysis of the same kind, which have yielded to the alcoholic extract of *nux vomica*.’—*Ibid*.

Vegetable Milk.—Amongst the astonishing vegetable productions, which are met with in the equinoctial regions, may be reckoned a tree which abundantly affords a milky juice, similar in its properties to the milk of animals, and employed for the same purposes, as M. de Humboldt witnessed at the farm of Barbula, where he himself drank of this milky juice. This liquid is derived from the *palo de leche*, or, *de vacca*, a tree which grows somewhat abundantly in the mountains above Periquito, situated to the northeast of Maracay, a village to the west of Caraccas.

The milk possesses the same physical qualities as that of the cow, with this only difference, that it is a little viscous; it has the same taste also as cow’s milk. As for its chemical properties, they sensibly differ from those of animal milk. The constituent parts of the milk of the *arbre de la vache* are, 1st, wax; 2dly, fibrine; 3dly, a little sugar; 4thly, a magnesian salt; and 5thly, water. The presence in vegetable milk, of a product which is not commonly met with, except in the secretions of animals, is a very surprising fact, which we should not have announced without much circumspection, had not one of our most

celebrated chemists, M. Vauquelin, already found *animal fibrine* in the milky juice of the *carica papaya*.—*Gazette de Santé*. 25 Juillet.

On the Scorbutus which manifests itself in a local manner during the treatment of fractures, and opposes their consolidation. By M. JULES CLOQUET.—Occasionally, during the process of consolidation of fractures, all the symptoms which characterise the last stage of scurvy, develop themselves in the fractured limb, and arrest, for a long time, or even entirely prevent, the cure of the fracture. This troublesome complication is sometimes a purely local affection; at other times it first manifests itself in the fractured limb, and afterwards extends to the other organs of the body. The local scorbutus of which M. J. Cloquet treats, would appear to be produced by debilitating causes, acting directly on the fractured limb, or even in a general manner on the system. In order to prevent this affection, M. Cloquet considers it necessary, in fractures complicated with inflammation, to be very cautious as regards general bloodletting; not to continue emollient applications longer than is absolutely necessary for allaying the inflammation, and after this period, to dress the patient with linen, very dry and moderately tight. When the symptoms of local scorbutus have manifested themselves, the attention must be redoubled, tonics and stimulants be administered, and, in short, all other means proper for obviating the scorbutus be employed. It is also very useful at each dressing to leave the limb exposed to the air, and especially to the rays of the sun, for some time.—*Archives générales de Médecine*.

Remarks on the employment of the Eau de Javelle with Soda for its Base in the treatment of certain ulcers.* By M. CULLERIER, neveu.—In M. Labarraque's ingenious Essay on the art of the gut-spinner, he has shewn the advantages of the *Eau de Javelle* with a base of soda, in disinfecting the workshops where the guts are prepared, whence the agent has been designated under the name of *Réactif de M. Labarraque*. The perusal of M. Labarraque's remarks induced M. Cullerier to employ the *Eau de Javelle* surgically, and in the communication before us, he relates the results which he obtained from its use in five patients labouring under syphilitic, and two under phagedenic ulcers, the characters of which were similar to those of incipient hospital gangrene. These ulcers, which had resisted, for several months, every general and local remedy, and exhaled at each dressing an

The *Eau de Javelle*, is a liquid, obtained by causing the oxymuriatic acid gas to pass into water, holding in solution about a third of its weight of the subcarbonate of potass of commerce.

insupportable fœtor, leaving upon the lint a layer of ichorous pus, lost, after the first or second application of the *Eau de Javelle*, their fetid odour, and soon put on the most favourable conditions of cicatrization. Two of these patients were cured in five or six days. The *Eau de Javelle* should be, at first, employed, diluted with from two to eight parts of water, according to the sensibility of the diseased part; but the proportion may be soon augmented until it is employed undiluted. It may be used, according to circumstances, under the form of lotions, injections, baths, or applied by means of lint or rags. The dressings should be renewed two or three times a day.—*Archives générales de Médecine*.

Case of Strangulated Diaphragmatic Hernia. By JAMES MACFADYEN, Surgeon, Glasgow.—The following case affords an example of one of the rarest species of hernia that the human body is liable to. It is also not unimportant in itself in a physiological and practical point of view.

J. W. a slater, on Monday (March 24, 1823) towards noon, being thirsty and overheated, drank a considerable quantity of cold water, acidulated with sulphuric acid. He was soon after seized with acute pain, situated at the lower part of the sternum, and extending over the whole of the left side of the thorax. Every thing he took was immediately returned unaltered. The pulse was small, firm, and rather frequent; the respiration confined; and the face pale and anxious. There was no pain in the region of the stomach; and the abdomen, instead of being tense or swollen, seemed as if retracted towards the spine. The patient himself was restless, appearing to labour under an inexpressible sense of uneasiness, and was continually tossing and turning in his bed. These symptoms, taken together, were supposed to indicate a spasmodic affection of the stomach, and the usual remedies were consequently employed.

On the following morning, he was found nearly in the same state; the vomiting, pain of side, and restlessness continuing as formerly. He had, however, one motion in his bowels. The pulse being more frequent than yesterday, though still small, 15 oz. of blood were taken from the arm. An injection was also ordered.

About mid-day, the pain in the left side of the thorax abated, but was succeeded by acute pain in the left lumbar region, stretching over the whole abdomen, which now, for the first time, became sensible to the touch. None of the other symptoms, however, suffered any material alteration. The patient appeared more exhausted than formerly, his respiration was

impeded, and the pulse scarcely perceptible. As a repetition of the bleeding appeared improper, a blister was applied to the epigastric region. But towards evening, before it had risen, the patient died.

This man, about a year previous to this attack, had fallen from a considerable height, and received a severe injury of the chest. As far as can be at present learned, there was no fracture of the ribs; but only a severe pain in or above the epigastric region, succeeded by symptoms of inflammation, which confined him to his bed for six weeks. The effects of this accident were never altogether removed. He was always occasionally liable to vomiting, and to pain in the left side of the chest, and particularly in the left shoulder. These symptoms were always aggravated after a full meal. Particular kinds of food, especially acedent, were found to disagree with him. He was able, however, notwithstanding these complaints, to follow his usual employment; and on the morning of the day on which he was attacked, he enjoyed, according to report, his usual health and spirits.

For great part of the above detail, I am indebted to Mr. Mackay, surgeon, who saw the case from the commencement.

On the following day, on inspecting the body, the following appearances presented themselves. The abdomen felt hard, yet was not distended or tense; on the contrary, (as before remarked,) it rather seemed as if retracted towards the spine. I also remarked, that the left side of the chest was considerably fuller than the right. The body showed little signs of emaciation from long disease.

On exposing the thorax and abdomen, a situation of parts presented itself, such as has been rarely met with in the investigations of the pathologist.

The whole of the left side of the chest was found occupied by the stomach, and the transverse arch of the colon, with the omentum, which also covered the forepart of the right side; so that the thorax and abdomen appeared to constitute one large cavity. The stomach itself was distended to an enormous size, apparently capable of containing a gallon of fluid. It filled up the whole of the left side of the thoracic cavity, the lung of that side being compressed to a very small size. The stomach was of a gray purplish hue externally. On laying it open, it was found about two-thirds filled with a dark-coloured fluid, and the internal coat black, and easily removable by the point of the finger. The colon was empty and contracted, and it, as well as the omentum, unlike the stomach, was of a vivid red colour, with large vessels ramifying upon their surface.

On examination, it was found that they had passed through a considerable aperture, situated about the cordiform tendon of the diaphragm, and not through the œsophageal aperture, as was the case in the most of the cases on record. In this instance, the gullet, after passing into the abdomen, through its own proper foramen, turned back into the thorax. This aperture bore evident traces of having been produced by laceration, from its irregularity and situation; although it was equally evident that some time must have elapsed from the occurrence of the accident. It was found tightly grasping the parts that passed through it, like the neck of the sack in the more common varieties of strangulated hernia.

The peritoneum, throughout, showed some slight traces of inflammation; but there was neither adhesion nor effusion. In the left lumbar region, the ileum was found highly vascular, accounting for the acute pain that had been felt there for some time previous to death. The rest of the viscera appeared perfectly healthy.—*Edin. Med. and Surg. Jour.*

Jenckes' Patent Apparatus.—A machine for removing the sick has been invented by Mr John C. Jenckes, of this town, which, where it has been in operation, is pronounced to be of great utility. A person confined to his bed, may by this machine be raised with perfect ease to himself, and with little effort or labour on the part of attendants, to such a height and for such a time, as to give an opportunity for making the bed and changing the linen; and in warm weather the patient may be much refreshed by being raised and kept at a distance from the bed. The motion is so regular and easy, that it is stated a person asleep may be raised without being awakened. A committee of the Association of Mechanics and Manufacturers of this town, having examined the machine, made a favourable report respecting it; and by the recommendation of that committee, the Association have ordered one to be procured for the use of the members.

It owes its origin to the confinement of the inventor by a fractured limb, during which he taxed his ingenuity to obtain some relief from the excruciating pain which he suffered when removed in the ordinary manner, and produced this machine, which is admirably calculated to alleviate the distresses of a sick bed, and to diminish the burthen of attendants.—*Providence Gazette.*

TO CORRESPONDENTS.

The Editors of the New England Journal have received a pamphlet entitled 'an Examination of the Strictures in the New England Journal for October, 1823, and in the North American Review for October, 1823, on Essays on Fevers, &c. by Thomas Miner, M.D. and William Tully, M.D.' The Editors do not, however, see any reason to depart from the ground they have taken in the Review. They are perfectly willing to refer the case to those who have compared the work with the Review, without any further explanation.

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Remarks on a Cutaneous Disease called the "Illinois Itch," communicated in a Letter to one of the Editors. By HORATIO NEWHALL, M. D.

THE principal diseases of this state are intermitting and remitting fever, and diseases of the liver; also cholera, dysentery and diarrhœa, and in the winter pleurisy and rheumatism. Bronchitis is common among children. Hooping-cough has been epidemic here, since the latter part of July. If you should think the following remarks upon a new cutaneous disease worthy of publication, you are at liberty to insert them in the next number of the N. E. Journal.

A cutaneous disease, of a peculiar character, has long been observed in the state of Illinois. Few persons have resided, for any length of time, in this delightful part of the country, without becoming experimentally acquainted with it. Four-fifths, at least, of all those who have resided one year in the state, have, I presume, suffered from this disease; yet no one, so far as I am acquainted, has undertaken to describe it. It is universally known here by the name of "Illinois Itch."

The disease commences with an itching of the arms and thighs without any unusual appearance. The patient is soon compelled to resort to violent rubbing or scratching for relief. The friction, in a few minutes, produces an eruption of small papulæ of the same colour with the adjoining cuticle. These papulæ are not acuminated, and are without inflammation at their

base. They frequently recede, whilst others make their appearance, and these in the course of one or two days become vesicular. The vesicles are more acuminate than the papulæ, and are filled with a clear, transparent fluid, which, after a few days, changes, in some, to an opaque, straw-coloured matter. They have no surrounding inflammation until there has been considerable friction. This produces an inflamed base.

When the vesicles first make their appearance, if the fluid is let out with the point of a needle, they disappear, leaving no trace of their previous existence. But if the tops are forcibly abraded, a watery fluid, mixed with blood, oozes out, which, by concretion, forms small black or brownish scabs. These in time disappear, leaving, frequently, a minute and permanent cicatrix.

When the disease has been of long standing, the vesicles are sometimes intermixed with psudricious pustules, containing a straw-coloured matter. The psudraccia often become confluent, and large irregular blotches are formed from the concretion of the fluid which is discharged. These scabby sores are found most frequently on the legs of men, on the legs and breasts of females, and upon the head and many other parts of children. In the last it might be mistaken for the crustea lactea, or milk blotch. I have seen the incrustation surround the fingers and toes of children and destroy the nails. During the progress of the disease, all of the appearances which I have described are intermixed with each other. The uninfamed papulæ, papulæ with inflamed bases, vesicles, pustules, the little black scabs, and the large blotches, are all observed at the same time; bidding defiance to any nosological classification of the disease.

The eruption is most numerous on the inside of the thighs, arms and wrists, about the axillæ and nates, and between the fingers. The bottoms of the feet are, in children, particularly subject to it. The face is the only part exempted from the disease. The eruption between the fingers, and between the fore-finger and thumb, sometimes consists of large pustules having an inflamed base, bearing a close resemblance to scabies purulenta. These pustules frequently ulcerate, and the pain and inflammation is very much increased. The hands become swollen to twice their usual thickness, and the patient is almost disabled from making any use of them.

This affection is accompanied with constant itching, which is aggravated by friction. It is much increased by heat, whence it is particularly distressing upon approaching a fire, or becoming warm in bed; often preventing sleep for several hours, and frequently debarring the patient from all rest for several nights in succession. The disease is common to both sexes, and to per-

sons of all ages. It is unaccompanied with fever. It is not contagious, nor communicable by inoculation. The eruption is successive, and has no regular period of duration or decline. It prevails mostly in the winter. I have known persons who have been afflicted with it for four or five years. In these cases, the disease commonly receded somewhat in the summer months, and returned with increased severity upon the approach of cold weather. It has mostly disappeared during the hot stage of intermitting fever, but has returned with the intermission.

The disease, in its different stages, assumes such a variety of appearances, that its diagnosis is often rendered extremely difficult. Other circumstances resulting from the friction and abrasion generally employed, render the diagnosis still more obscure.

It is distinguished from scabies first, by the eruption itself; the elevations, in the early stage of this disease, being papular, whereas, in those varieties of scabies liable to be confounded with this, they are found to be vesicular; and in the second place, the contagious nature of scabies will often manifest itself, distinguishing it at once, from the present disease.

It differs from prurigo in many respects. In prurigo mitis the itching is aggravated by sudden exposure to the air; the eruption commonly occurs in the spring or summer, and affects, mostly, young subjects. In the Illinois disease, the itching is relieved by exposure, and the eruption occurs mostly in the winter, and affects indiscriminately persons of all ages.

In prurigo formicans the feet and palms of the hands are not affected, which is not the case with the disease under consideration. The Illinois itch is not connected with internal disorder, nor does it terminate in scurf. These circumstances may constitute the points of diagnosis between this disease and the different varieties of Lichen.

Those who have been afflicted with this disease, have resorted to various stimulating applications for the cure of it. Among the numerous articles which have been employed, I know of no one, but has sometimes failed. In general, the application of ointments or lotions containing sulphur, mercury or zinc, together with the internal use of epsom salts, or sulphur, have been productive of the greatest benefit. The ointment of nitrate of mercury, has relieved the intense itching more than any other application; but it frequently fails to promote a cure. The most popular remedy is an ointment composed of the nitric oxide of mercury, Venice turpentine and lard. This is commonly accompanied by the internal use of sulphur. A strong solution of sulphas zinci has caused the eruption to disappear. An ointment composed of the leaves of the *Podophillum peltatum* or May ap-

ple and lard, has, in many cases, entirely removed the disease. The sulphur ointment is frequently used, but with me it has often failed to eradicate the disease, although at other times it has seemed to be beneficial.

In two cases, the use of the sulphur ointment has caused the whole body to be covered with those elevations of the cuticle, which are usually denominated wheals. The eruption appeared and disappeared irregularly, but could be excited upon any part of the body, in a few seconds, by friction or scratching. The elevations seldom remained long in the same place, often but a few minutes. They were accompanied with an intolerable itching, heat and pricking of the skin. Wheat flour, rubbed upon the skin, appeared to cause some alleviation. By abstinence and a cooling regimen the eruption disappeared in two or three days.

Greenville, Bond Co. Illinois, Dec. 20th, 1823.

Observations upon Parotitis, or Mumps. BY A. L. PEIR-
SON, M.D.

[Communicated for the New-England Journal of Medicine and Surgery.]

DR Robert Hamilton in the 2d Vol. of the Transactions of the Royal Society of Edinburgh, was the first to give a clear and distinct account of this disease, which, from its usual mildness, is so seldom the subject of medical treatment, that the description of it by medical writers has been almost entirely neglected.

Occasionally however, it assumes a grave form, and when suddenly disappearing from the original seat of the disease, gives rise to local and constitutional symptoms, which call for all the resources of the art. The diagnosis of the disease also, often involves the reputation of the physician, if not the safety of the patient, since its contagious nature often requires a separation of the subject of it from others who may be exposed to its influence.

The complaint ordinarily begins with the sense of weariness and drowsiness, with wandering pain and general restlessness, which usually usher in a febrile complaint; these are frequently so slight as to be disregarded. The first characteristic symptom I have ever noticed, is a *tingling and ringing of the ears*. Immediately upon this, a swelling below the ear of one or both sides takes place; at first of the parotid gland only, but usually involving in the course of the complaint, the other salivary glands. The swelling is sometimes enormous, and usually begins to sub-

side the fourth day. The specific inflammation of the gland has of itself little or no tendency to suppurate, but the mere distension may produce phlegmonous inflammation of the cellular membrane, without the salivary glands becoming involved in it. Of this nature is the case of the young soldier mentioned by Hamilton, in which two pints of matter were discharged from an abscess, the seat of which was entirely in the cellular membrane. The disease much more frequently affects children than adults, for which two causes may be assigned;—that the disease affects a subject but once during life, and most persons are exposed to the contagion of it during childhood, and because all contagious principles act with more energy upon children crowded together in schools and nurseries, than upon adults, breathing a more widely extended atmosphere.

The complaint from which it is most difficult to distinguish the mumps, is the phlegmonous swelling of the salivary glands, to which children of strumous habit are particularly liable. The seat of the disease is often precisely the same, and its progress at first nearly similar. In the mumps, the disease always begins first to affect the parotid, and then extends to the glands below; in almost every instance it may be traced to some source of contagion; and it very rarely increases after the expiration of three days: in all which circumstances the disease differs from the scrofulous tumour. But notwithstanding the minutest attention to the distinguishing marks, there are few practitioners who have not been deceived in deciding on the mumps.

It is in adults principally, that a metastasis of the disease becomes important. If the tumefaction beneath the ears, instead of disappearing gradually after three days, subsides suddenly, at or before that time, and is attended with new rigors and febrile symptoms, a swelling invariably appears in the testes and scrotum of males, and the mammæ and labia of females. If there is any exception to the universality of this rule, it occurs in subjects below the age of puberty. Dr Hamilton speaks of the swelling of the mammæ of females only upon hearsay, and says he has received no authentic account of such a case. In all the cases of the disease which he had seen, occurring to females, the subjects of it were under ten years of age, and slightly affected. The following case shows some of the usual symptoms of the mumps when suddenly repelled. May 6, 1823. A corpulent woman 24 years of age had mumps on both sides for 4 days, when the swelling below her ears suddenly disappearing, she was affected with severe pain of the back and loins, distention of the breasts, accompanied with dull heavy pain, and tumefaction of the labia without pain. There was soreness and tenderness of

the region over the bladder. Stimulating applications were made over the salivary glands, diaphoretic medicines, and wine whey, and other cordial and slightly stimulating drinks were ordered, and the bowels opened with an aloetic purge. The patient recovered in a few days, although the swelling of the salivary glands did not return in any degree. Metastasis of mumps in males, is productive of more serious consequences than in females. Swelling of the genitals, fixed pain in the lumbar region, and considerable constitutional disturbance is often the sequel. Hamilton relates a case in which the testicle was absorbed, leaving only its empty tunics. In a case which occurred a year since, the general health has not yet recovered from the injury, and varicocele has been the consequence of the local weakness. In this case, pain in the loins, and in the course of the spermatic cord, was for several months a constant attendant.

The swelling of the genitals and mammæ terminates in several different modes. Most commonly, the parotids swell a second time, and the other parts are at once relieved; sometimes resolution takes place in these parts without being followed by the original parotid tumour, as in the case of the female mentioned above; an atrophy of the testicle may succeed, and lastly, a translation of diseased action to the brain may take place, producing consequences in the highest degree alarming—febrile excitement, delirium, convulsion, and frequently death. This termination of the disease is fortunately most rare, but has taken place during some Epidemics, and has a place in all modern descriptions of Parotitis. (*Dict. des Sciences Med. article Oreillons.*)

The termination of the mumps by suppuration is more rare than that by metastasis, and when abscess does take place, the glands are for the most part unaffected by the suppuration. The last and rarest termination of the mumps is in induration and permanent enlargement of the salivary glands. There is some reason to believe that both these last terminations are more common in strumous habits.

By far the greater number of cases of this disease require no other treatment than warm covering. For the most part, on the fourth day the swelling begins to subside spontaneously, a slight perspiration establishing itself on the skin over the tumefied parts. If metastasis has taken place, or from the sudden or premature subsiding of the original swelling, is to be apprehended, the application of local stimulants, especially vesication, to the region of the parotid, is the most important among the curative means. Hamilton adopted the practice of covering the swelling of the parotid with a blister in *every case*. This was followed by perfect

success, metastasis occurring in no instance where the blister had been applied. In common epidemics this practice is certainly unnecessarily harsh, but where from the frequent occurrence of metastasis there is reason to suspect a peculiarity in the "epidemic constitution," it is undoubtedly the safest method. When the brain becomes affected, the local stimulants should be applied to those parts from whence the disease has been *last* repelled. It is in these cases too, that bleeding and purging, which for the most part are inadmissible in this disease, are indicated. The use of mercurials in this disease is peculiarly disastrous. In a case in which the mumps were taken for common glandular swelling, and salivation was induced by the submuriate of mercury, given to produce a resolution of the disease, a most frightful abscess was the consequence, which well nigh suffocated the patient at first, and exhausted her by the discharge afterwards. The nature of the case became clearly manifested by the opposite side going through the regular changes of the mumps a few days afterwards. Not much less unfortunate is the mistake which frequently occurs in military practice, of treating the swelled testicle of mumps for a venereal disease. Suppuration, after the mumps, requires no peculiar treatment, and induration of the salivary glands is generally resolved without much difficulty, by simple or mercurial frictions, and by slight shocks from an electrical machine.

Salem, Feb. 23, 1824.

Four Cases with Remarks. By a Contributor to the first Series of the New England Journal of Medicine and Surgery:—

Case of a foreign body lodged in the rectum, which produced very severe symptoms.

JANUARY 1824. I was called to see A. B. aged about 30, who had been suddenly seized with very severe illness. I found him in bed, with marks of acute suffering in his countenance, and soon learned that the seat of pain was the rectum. His face was pale and contracted, eyes slightly yellow,—his skin, especially of his extremities, very cold,—his pulse quick, small, not hard,—he had no head ache, had not experienced any rigor,—his tongue was clean. He gave the following history of his case. For some weeks previous to the present attack, he had common symptoms of internal hemorrhoids, at times he was quite free from uneasiness in the rectum, and the pain when most severe was like that which might be produced by a pointed body,

or sharp bodies, like pins if introduced into the gut. He was subject to slight prolapsus ani. He had been costive, and occasionally had taken laxative pills. He said, that early in the morning of the day I saw him, he was as well as common,—had a stool at the usual time, which was very large and hard,—the bowel came down, and on returning it, he was seized with excruciating pain in the part,—that he could hardly get up stairs to his chamber, and concluded by intreating me to give him something which would afford relief. There was no external appearance of disease in the part. He had at once a dose of laudanum in a solution of epsom salts, which was to be repeated as circumstances might require. A warm fomentation was applied to the seat of pain. The salts operated well in four hours, with some relief. The pain returned however with its former severity in an hour, and was accompanied by distinct throbbings. Twenty leeches were now applied, the laudanum repeated, and the fomentations continued. I saw my patient again at 10 in the evening, and notwithstanding his assurances that he had swallowed no substance whatever which could remain in the rectum and give rise to the symptoms, I was determined to examine the bowel *per anum*.

I found the external parts still exhibiting no marks of disease, but a distinct fullness and hardness was perceived on the right side of the anus and perineum. The attempt to introduce the finger produced the greatest agony, and notwithstanding I proceeded with the greatest care, and with pauses, that relaxation of the spincter might be produced by such pressure as I was allowed to make, no relaxation occurred. The contraction and rétraction of the part were so complete, that the termination of the gut was scarcely perceptible. Under these circumstances, and the great exhaustion which occurred, I gave up my purpose, and determined to wait till morning. A grain of opium with three of calomel were given, and the same was directed to be repeated in four hours if no relief occurred.

The patient was induced sometime after, from the continuance of the pain to attempt the examination of the rectum. After a long continued effort, accommodating his exertions exactly to the effects produced, he at last succeeded in passing the sphincter, and at a short distance within the gut felt a hard foreign body lying exactly across the bowel. He gradually carried his finger beyond it, and then slowly brought it down. The pain was excruciating during the progress of the substance, but subsided immediately after its removal. Upon examination I found the substance to be a firm piece of bone polished on one side towards an inch in its greatest length, having three very sharp angles, and very rough edges. No inconvenience has since been experienced in the part.

Case showing the importance of early manual Examination in cases of threatened Abortion.

The patient, in this case had for a fortnight before I saw her suffered the ordinary symptoms which precede abortion. Her health was not very good at any time, and had not improved during her pregnancy. It was desirable to prevent abortion, both that the ultimate beneficial effects of pregnancy might be experienced by the system, and because abortion would occur under unfavourable circumstances. The physician who preceded me in attendance, had employed the ordinary and best means of preventing miscarriage. The patient was kept at rest. Small bleedings were practiced. Opiates were given to relieve uterine pain. The diet was regulated and the bowels attended to. Under these measures the disturbances in the uterus were temporarily diminished, though they never subsided. When the immediate effects of a blood letting were over, and the circulation restored to its common vigour, some uterine uneasiness would be felt, and a slight but coloured discharge would occur from the vagina. So it was with opiates, when their anodyne operation had passed off, the uterus would begin shortly to be the seat of pain.

This continued to be the state of things till I saw her, a fortnight from the attack; and I was disposed to continue the treatment with a hope that pregnancy might still go on. I was anxious to avoid examination *per vaginam*, as I knew this could not be done without some irritation of the mouth of the womb, and very probably defeating the important purpose for which all the preceding treatment had been adopted. I waited two or three days, and watched my patient carefully. It was soon clear that the general health was failing under the treatment, and the symptoms, which would unavoidably occur at times every day, in the womb. The nights were passed without refreshing sleep, the pains being always most severe at night, and the laudanum given to procure sleep was constantly weakening the powers of the stomach. I resolved on the third day to make an examination and satisfy myself of the precise state of things, and either adopt a course which would effectually quiet the womb, or allow the uterus to expel its contents undisturbed.

Upon examination I found the mouth of the womb open, and closely embracing the head of a foetus at about mid way of the cranium. The waters were passed off, and the smooth cranium presented to my finger. An examination was next made of the state of the mouth of the womb. It was found thin or expanded over the portion of the head which was still within the uterus, apparently disposed to dilate when the efforts of the womb were

such as to require it, in other words *dilateable*. The examination excited effective contractions of the womb, and in a very few minutes an abortion of between the fifth and sixth month was expelled. The patient at once became tranquil, got good sleep, and was soon in her ordinary state of health, and has since had a fine child at the full time.

Upon examining the head of this *foetus*, I was a good deal struck with its appearance. That part of the scalp which had protruded was of a dark purple red colour, and was most accurately defined, its extent being exactly limited by the contracted os uteri which had probably for a long time compressed it. The rest of the head was nearly of the usual colour. From its appearance, it was fair to infer that for some days, at least, previous to my examination, the os uteri had been partially open, and was very gradually allowing the head to escape. The expulsion had been prevented by the effects of the blood letting and the opiates.

The practical inference from this case is favourable to an earlier examination in similar cases than physicians are in the habit of making. The child may be retained in the womb a long time after the os uteri is opened and the liquor amnii unequivocally passed off, as in cases of premature labour, induced because the pelvis will not allow the full grown *foetus* to pass alive. Much more may delay be experienced where we are diminishing the energies of the uterus and of the system also with a view to prevent what must ultimately and necessarily take place. I cannot but think, that some of the bad effects of abortion, as the cases are managed, are to be attributed to the means used to prevent abortion where it is unavoidable, and which last may always be ascertained by an *early* examination.

An argument for *early* examination may be found in this, that if the examination be made properly, no such irritation will be experienced by the mouth of the womb, as would excite the uterus injuriously. It is made properly, when every step of the operation is taken very gently, and with the greatest care to avoid a rude or powerful impression on the mouth of the womb, should it be found accurately closed, or till its state is fully understood. When however it is found dilated, and having any part of the *foetus* protruding through it, some pressure, some irritation of the os uteri with the end of the finger passing round it on its *edges* and *outside*, will be a stimulus to active and efficient pains. Our patient will in this way get through a painful process with her powers in a comparatively healthy state, and before she is exhausted by treatment and disease.

Farther. If the child is found presenting, we learn that reme-

dies to prevent abortion are out of the question, and instead of bleeding, and giving opiates, the case is allowed to go on. We need in so obvious a case as this make no examination of the mouth of the womb, if the case be comparatively recent, and the pains active; for the foetus will be felt at the first examination more or less low in the vagina. But if the pains are not forcing, and but a small portion of the foetus be expelled from the uterus, a slight irritation of the mouth of the womb will be very serviceable.

I have been disposed to offer these remarks without such qualifications as would be proper, were it my purpose to treat on the whole subject of abortion, and for this simple reason, that we are very rarely called to these cases, until so much evil has been done, until the abortion has advanced so far, that there really remains no other question than this, what will bring this process to its safest and earliest termination. In the majority of these cases, pain more or less severe, sharp or forcing, or both, may have existed some days,—diarrhoea may have been present,—frequent and difficult micturition,—a discharge of mucus more or less coloured with blood, may have taken place from the vagina,—a sudden and considerable discharge of water may have also come away from the same canal. Without an examination one would hardly here look for the continuance of healthy pregnancy. But as even in such cases as these, the mouth of the womb may remain almost closed, or no part of the foetus be felt at it, and abortion be prevented by judicious treatment, an early examination should be made to learn the true state of things, and that a rational course of treatment should be pursued. In the greater number of such cases however, labour goes on, for such changes have occurred in the uterus, and situation of the foetus with regard to it, as to destroy the function of pregnancy. An early examination will settle all these points.

If we are called very early in threatened abortion, and before many of its ordinary precursors have manifested themselves, then a preventive treatment is the proper one, and should be faithfully pursued. In this case an immediate examination is not necessary. Let the obvious causes be removed; and if none appear, relieve the pain, and diminish the force of the circulation. But if under the fair use of appropriate means, the symptoms upon the whole increase, and especially, if the presumptive symptoms of miscarriage occur, make an examination, and learn whether the case warrants the continuance of the treatment or not. But what is the fair use of appropriate means? or, which is the real question, how long shall they be trusted to before an examination is made? From what I have seen in these cases, I am

convinced that the examination should not be long deferred; and if I am asked for more precise instructions on this point, I should say distinctly, that it should be made in the course of the second day, from beginning the preventive course. The arguments for the early examination are numerous. One only will be named. If we are satisfied by it, that the case is within control of medicine, the treatment will be faithfully tried; we shall not relax, or give up the course because *something* has been gained. We shall on the contrary pursue it steadily, with a rational modification, till *every thing* has been gained and the patient out of danger.

The treatment of abortion resolves itself into the treatment of the patient before a second conception, if she have already aborted, and the treatment of the early first weeks of pregnancy, when conception has occurred. This however forms no part of the object of this article. One case only has been adduced in support of the practice of early examination in cases of threatened miscarriage, I could easily have added others equally instructive on this point.

Anomalous Symptoms in the Vaccine Disease.

A. B. an infant child, within the year, was vaccinated November 21st, 1823. She was in perfect health, had not been weaned, and had a healthy nurse. The matter was taken from a very fair vesicle, in a healthy subject, and was used in other cases without any untoward symptoms occurring in any stage of any of the cases. I make this particular statement here, because in a previous vaccination of a healthy infant in the same family, a very sore arm followed the disease, in no previous stage of which however had any irregularity been perceived. I visited my patient almost every other day.

In the present case, the disease went on well. The vesicle formed at the proper time, the areola took place regularly, and the process of scabbing went on precisely as it ordinarily does. The scabs fell off at the usual time, and the surface thus left exposed, was perfectly healthy. I left the patient well. In a few days after I was again requested to see this infant, on account of some novel appearances in the seats of the original vaccination, and around them. I found on examination that new vesicles had formed where the scabs had fallen off, and had rapidly become yellow and opaque. But what I was more particularly requested to see, were five or six distinct pimples, in the neighbourhood of these vesicles, with a blush of red at their

bases, and a yellowish fluid at their tops. The little patient was hot on the skin, and unusually drowsy. An active cathartic was ordered, and some very slight treatment, a little tepid water on folds of cambric, ordered for the arm.

The next day, the drowsiness had abated, but extensive swelling had taken place in the arm at its upper part. The child was restless, its skin dry and hot, and very red at that part of the arm which was the principal seat of the disease. In a few days the vesicles, and surrounding pimples dried away and the general symptoms abated, and almost disappeared, but the swelling of the limb gradually extended, and at length involved the whole arm, to the hand. Just at the wrist it suddenly terminated, leaving the fingers of their ordinary size while the arm was full twice its natural dimensions.

Attempts were made and persisted in to bring about resolution. These however entirely failed, and a large abscess formed occupying most of the fore arm. The swelling was remarkable for extending uniformly round the arm, the bones passing directly through its centre, and the hand projecting from the middle point of its termination. Fluctuation was first perceived on the back of the fore arm, near the wrist. A puncture was made here with a lancet, and a full discharge of pus effected. Much relief followed the discharge, and the patient gradually recovered. It was not however till nearly four months from the vaccination that the arm was perfectly well.

Management of the Placenta.

The management of the placenta presents many difficulties. In many cases it is the most embarrassing part of midwifery practice. The first and second stages of labour are perfectly natural. The child is born under the most favourable circumstances of time and symptoms, and the patient feels herself so comfortable, as to be under no apprehension of danger, or subsequent suffering of any kind. But the placenta does not come away. The womb ceases to contract so perfectly as to separate it entirely, or if it does this and a part of the organ is contracted, it ceases to contract further, and allows the placenta to remain at its inferior part, or partially expelled, without any renewal of contraction. Alarming symptoms may now come on. The patient from speaking with a good, natural voice, is found to whisper, and this with difficulty; strange feelings are experienced in the head. The sight fails entirely or is imperfect. The face is pale, forehead damp, and the surface cool or cold. The respiration is sighing, or more laboured, and the pulse is quick, frequent, and thready, or wanting. All these symptoms may be the consequence of an obvious

hemorrhage. They may be the consequence of an internal concealed hemorrhage, or if much or rude effort have been made with the cord to remove the placenta, it may be that inversion of the uterus has occurred, or that this last has taken place spontaneously.

It is not however on account of the above symptoms merely or principally that the management of the placenta is embarrassing. When such symptoms are present, the danger is manifest and the treatment as obvious. It is in the less alarming cases, that we are not unfrequently troubled as to the precise course which should be pursued; to settle with ourselves whether delay shall be practised, and to what extent, and more especially what in a given case is the cause of the retention of the placenta. Much has been written about the management of the placenta, and its causes distinctly pointed out. These are want of energy in the uterus *to separate* the placenta, want of energy to expel it *when separated*. An unusual adhesion, which however is not *morbid*. *Preternatural or morbid adhesion*. *Irregular contraction* of the uterus, or the *hour-glass contraction*.

To ascertain which of these causes exists in a case, we examine the abdomen and learn to what extent the uterus has contracted. If well contracted, we shall feel it like a hard ball with somewhat of an irregular surface, just above the symphysis pubis. If not perfectly contracted, it will be more of an oval than ball shape. It will terminate in a rounded point, and the apex of the tumour thus formed, will be found towards that side of the abdomen on which the woman happens to lie. This examination teaches very distinctly that the retention of the placenta is not entirely if at all owing to want of contraction of the uterus. We next examine by the vagina, and if we feel the root of the cord within a finger's length from the entrance of the vagina, we have ascertained that the placenta is cast off from the uterus and is either partially or wholly excluded from its cavity. Still we find the placenta remaining, and not advancing under such force applied to the cord as seems safe or requisite, and while such force is making the patient experiences pain, which now and then is very severe.—The object of this article is to speak of a cause of retention under these circumstances, which if it have a place in books, is not sufficiently adverted to in practice.

I was sometime since requested to see a patient in a labour which had lasted nearly four days. The urinary bladder had not been evacuated for many hours, and ineffectual efforts had been made to introduce the catheter. The patient had no desire to pass water, but complained of great uneasiness in the re-

gion of the bladder. Upon examination a tumour entirely distinct from the uterine was felt extending nearly to the umbilicus. Pressure on this tumour produced much suffering. The catheter was introduced and more than three pints of urine were drawn off with great and immediate relief. Upon examination it was found that the head was firmly wedged in the pelvis. That it had been in this situation for twelve or sixteen hours without the least change of place. The anterior part of the pelvis was accurately filled by the head. They were in somewhat less close contact towards the sacrum. The patient was much exhausted. The stomach getting irritable. The pulse rapid, but of sufficient strength. Moderate pains were present. It was proposed to use the lever. This was done, but a long continued effort proved wholly unavailing. The forceps was next employed. One blade could be readily passed in one direction, but an insurmountable obstacle was experienced in endeavouring to get the other blade exactly to antagonize it, or sufficiently so to lock them. The situation of the first blade was then altered, as much as the state of the pelvis, and the situation of the head would allow. But the difficulty was renewed when the second blade was passed. The truth was that such was the accurate contact of the head with the pelvis, every where except towards the sacrum, that the second blade of the instrument was passed with difficulty, and the posterior edges of both were so nearly in contact, that the shanks literally rode over or crossed each other at their angles, instead of their smooth and locking surfaces being accurately opposed to each other.—To attempt to lock the blades under such circumstances by any degree of violence was wholly unjustifiable, and the force must have been great to have effected it at all. Upon inquiry I learnt that the motion of the fœtus had not been felt for a great part of the day. A black adhesive mucus resembling the meconium was constantly escaping from the vagina. Local symptoms were occurring of an alarming character, and the general effects of the labour were becoming more important. It was agreed to use the crotchet. This was done, and after much effort the woman was delivered.

Here was a case in which some difficulty might have been anticipated in the delivery of the placenta. The case was a very lingering one; had produced much exhaustion; had been attended with obvious disturbance of the functions of the urinary bladder, and been terminated artificially. To ensure contraction of the uterus, and to observe such contraction, the hand was applied over the abdomen, and moderate pressure made on the uterus. Contraction took place, and a somewhat elongated but firm tumour was felt occupying the inferior part of the abdo-

men. The expulsion of the placenta was left to the natural efforts. After waiting nearly an hour at the request of the patient, that she might recover from the fatigue and pain she had suffered, the physician in attendance made an examination to ascertain the situation of the placenta. It was within reach of the finger. It was not however disposed to come away by the slight uterine efforts which had come on, nor by such extension of the cord as was thought proper. During these efforts the woman made great complaint. The placenta was so near, that it seemed that a farther effort with the cord was indicated, but no progress was made. The fingers were next introduced to the edge of the placenta, and as it was now made decidedly to descend, by the cord, and by bringing down the edge of the placenta, more force was employed. The patient made great complaint of her sufferings, and the cord suddenly separated from the placenta. I was now requested to make an examination. The placenta had fallen quite low in the vagina. But what most struck me was the almost entire separation of the organ from the membranes. It was as perfect as if it had been dissected off with a knife or scissors. The portion where union existed was very small, and with a very slight movement, the placenta came away perfectly divested of the membranes. Upon examination these were found adherent over the whole circumference of the uterus, and required some considerable effort to detach and remove them.

The cause of the retention of the placenta in this case is obvious. The uterus had contracted well at its fundus and through a part of the body. The placenta had been separated, and had fallen down even beyond the mouth of the womb, at least in its central part. The membranes however continued closely adherent, and the degree of contraction at which the womb had arrived did not serve to separate them. So firm was the adhesion in this case, that before it yielded the cord was detached, and nearly the whole of the placenta was torn from the membranes, where they pass off from its edges. It was entirely separated by a very slight examination into the cause of the retention.

Many cases have occurred in which a similar state of things was believed to exist, as has been above narrated. The degree however in which the adhesion existed was less than in this case, and the cases of course were more easily managed.

What, it may now be asked, would be the best treatment in a similar case? To answer this question in the first place negatively, we are not to attempt the removal of the placenta by the cord alone; nor, by perforating the membranes *near* the placenta, and thus getting at its edge, should we attempt its remo-

val. If the adhesion be slight, we may accomplish our object by embracing the membranes and the edge of the placenta between the thumb and two first fingers of the right hand, and then putting the cord gently on the stretch with the left, gradually bring it down by a simultaneous effort with both hands. There is some danger here however of tearing off some portions of the membranes, and of leaving them to come away when putrid. A better plan, and one now recommended, is to carry the right hand into the vagina, and putting the cord gently on the stretch with the left, to embrace the central portion of the placenta within the fingers and thumb, then draw these last slowly together so that they may retain a portion of the placenta within their grasp. Make now an extracting effort, with the hand thus applied, and draw the placenta gradually down, and the membranes will be found simultaneously to separate from the womb. The cord is used merely as a guide.

This species of retained placenta may be confounded with partial and concealed inversion of the womb. In this last case the placenta will present precisely as it does when retained by the membranes. The diagnosis is to be found in the state of the abdomen as examined by pressure, and in the other distinguishing circumstances of the two cases. In inversion, we do not feel the uterus upon pressure, but instead of it, perceive a remarkable vacuity or depression at the lower and front part of the abdomen, and there is present a train of symptoms so marked that we shall have no difficulty in distinguishing them from the ordinary and very slight ones that attend a simple retention of the placenta. In short in this last case, the patient may present no uneasiness whatever; the only questions being, how long shall the placenta be allowed to remain? what retains it? and how shall it be removed? The two last of these questions have been answered. The various and contradictory answers which midwifery writers have given to the first form no part of the object of this article. Perhaps Dr John Mowbray and Mr Edmund Chapman, Surgeon, have come nearer the truth than some of them.

REVIEW.

ARTICLE III.

Surgical Essays. By Baron D. J. LARREY, Surgeon in Chief of the Hospital of the Royal Guard, &c. &c. Translated from the French, by JOHN REVERE, M.D. Member of the Royal Physical Society of Edinburgh, &c. &c. Baltimore: N. G. Maxwell, 140 Market Street. 1823.

THE rank which Baron Larrey has long held in the profession, the reputation of his previous work and the opportunities which he has enjoyed for observing disease under various forms give every publication of his a claim to the most attentive and respectful notice, and we feel greatly indebted to Dr Revere for his translation of the present work, without which it would not have been so generally accessible. We ought also to observe in justice to Dr R., that we think he has accomplished his irksome task in a manner highly creditable to himself; we have in fact compared his translation of the article on Moxa, which constitutes nearly one half of the volume with a translation of the same made in England, and have found it to be in every respect equal. Not possessing the original we are of course unable to judge of its fidelity, but this we think may be inferred from the great clearness and connexion which appear throughout the work as it is presented in an English dress. It must be admitted, however, that some few French idiomatic forms of expression are visible, and an occasional awkwardness and inelegance of style may be observed, which can easily be corrected in a subsequent edition.

The volume before us consists of six essays, of which we propose to present an analysis to our readers. The first and longest is on the 'Use of Moxa,' of the early history of which the author furnishes no account, but from the great share of attention it is now receiving in Europe, we shall endeavour to give a very short one, derived principally from the *Dictionnaire des Sciences Médicales*.

Moxa, as is well known, is an inflammable substance, which is applied to the skin and then ignited and retained in that situation till it is entirely consumed; in other words it is another mode of applying the actual cautery. It has for many centuries

been used in the East, particularly in India, China and Japan, and is employed by the natives of those countries not only to cure disease but also to prevent its occurrence. Kempfer says that the term is Chinese, and the article employed as Moxa in China is composed of the dried leaves of the *Artemisia Chinensis*, which are first pulverized and then formed into a pyramidal shape. It was introduced into Europe about the end of the seventeenth century, and was employed almost exclusively in gout. Sir William Temple, at that period ambassador from Great Britain to the Low Countries, employed it with great benefit in his own case, and published a very interesting and flattering account of its success. It was immediately introduced into England, where it seems however to have possessed but a short-lived reputation, as it has not been in use there till very recently, since the time of Sydenham, and even then it was on the decline. The exaggerated statements respecting its efficacy probably hastened the neglect into which it so soon sunk, and there seems to be danger that the same cause will produce a similar result at the present time. Its use was revived within a few years first on the continent of Europe and subsequently in England, and our author, who has been among the foremost to introduce it to public notice, considers it as capable of producing highly important results.

Various articles have been employed as substitutes for the Chinese Moxa, which is not easily obtained and which does not seem to possess any peculiar virtue. In the French army, the common gun match has always been used for this purpose, and Baron Percy, who mentions this fact, has found that any combustible substance, as cotton, flax or hemp soaked in a solution of nitre, forms a convenient and useful substitute. M. Roux, however, has objected to these articles upon the ground that the combustion is too rapid; every thing should be so arranged, 'that the combustible substance' (to use his own words) 'which we employ may consume slowly and without interruption, that the heat may be prolonged, and insensibly carried to its greatest intensity; it is upon this that the efficacy of the remedy depends.'

There is another article which has been extolled by Percy above all others; it is the *meditullium* or pith of the great sunflower, the *helianthus annuus*, 'which,' he says, 'Nature has impregnated with the nitrate of potass.' Dr Rush informs us, that the aborigines of our own country make use of the actual cautery and the substance they employ for the purpose of applying it is 'rotten wood called *punk* (*spunk*), which they place upon the part affected, and afterwards set it on fire; the fire gradually

consumes the wood, and its ashes burn a hole in the flesh.' This answers the purpose of moxa very perfectly, as we know from some experiments that have recently been made in this city upon the subject.

Baron Larrey makes use of cotton, and we copy the following description of his mode of preparing and applying it, together with some cautions as to the parts of the body upon which it may be applied with safety.

'The case or cylinder of moxa is composed of a suitable quantity of carded cotton, rolled up, and sewed in small pieces of fine linen. This cylinder should be about an inch long, and of suitable thickness; its size, however, may vary according to circumstances. An instrument for applying it, which may be called a *porte moxa*, is intended to fix the cylinder on the point, where the application is to be made. The metallic ring of the *porte moxa*, is kept from the skin by three ebony balls, which are bad conductors of caloric. After lighting the apex of the cone, the combustion is kept up by means of a blow-pipe. It is not necessary to hasten the combustion, as it ought to proceed slowly.

'To apply the moxa well, we mark at first, with a little ink, the point where the application is to be made. The surrounding parts should be covered with a wet cloth, leaving the point marked alone exposed; this protects the neighbouring parts from the contact of the sparks. After applying the fire to the apex of the moxa, it is then to be fixed in the point marked out, and by means of the *porte moxa*, retained in its situation, while, with the blow-pipe, the combustion is kept up, until the whole is consumed. To prevent deep inflammation and profuse suppuration, which would be the result, it is necessary immediately afterwards to apply on the point, the volatile alkali.

'According to some authors, we may apply the moxa on any part of the body; but I think with others, that we should except, in the first place, all that portion of the cranium, which is only covered by the skin and pericranium. Here the effects of the moxa, and especially those of the actual cautery, are felt too directly by the cerebral membranes, or even the brain itself; from which dangerous accidents may result, and of which there are many examples. Dehaen relates two cases which prove the danger of its application upon this region.

'2. We should not apply it on the eye-lids, nose, nor ears; we should also avoid its application over the course of the larynx, trachea, sternum, mammæ, linea alba, and organs of generation, except upon the perineum, towards the origin of the urethra, for scirrhus and chronic engagements of these parts, especially' (for that of) 'the prostate.

'3. We should also abstain from the application of every kind of cautery in the course of the superficial tendons, and those parts of the joints, where we have reason to fear interfering with the capsular ligaments.'

Not more than one or two moxas at the most should be applied at a time, and an interval of several days should elapse between the applications, lest the constitutional effects should be too severe. The pain from the application, though always severe and sometimes extreme, is said to be relieved, if not entirely removed by applying aqua ammoniæ to the part. A dry state of the atmosphere should be preferred for the operation, and its efficacy is increased when preceded by cupping.

After giving these and a few other directions of minor importance, the author proceeds to speak of its beneficial effects in various diseases. He extols its efficacy in affections of the organs of *seeing, smelling, tasting and hearing*, and in those diseases which affect the *voice and speech*, in *spasmodic affections of the muscular system*, in *paralysis*, in *organic diseases*, and in those of *the chest*, in *consumption*, in *organic diseases of the abdomen*, in *rickets and diseases of the joints*. It would be impossible for us, without devoting more of our pages to the subject than our limits would allow, to follow him through the details of all these various affections, but we are satisfied from a very careful perusal of the Essay on Moxa, that he has in some instances at least exaggerated its effects, and attributed to it results which were entirely owing to other means. So eager is he to raise the value of his remedy, that he attributes effects to it somewhat of an opposite character. Thus we are told in page 61, that 'the moxa produces a resolution of symptomatic abscess or abscesses by congestion, when they are not too far developed,' and in page 79, may be found a case in which the suppuration of the liver was supposed to be promoted by it. He entirely overlooks or disregards the other means that are employed, though they may be of the most active kind, and attributes solely to his favourite remedy, what is probably the effect of them alone. His theoretical views and explanations are rarely satisfactory, being founded for the most part on the doctrine of the humoral pathology, of which he seems to be a pretty zealous disciple. Giving these objections their full weight, it must still be admitted, that many of the facts are striking, though we must receive some of them with distrust, and the remedy is certainly entitled to a fair trial from its reputed efficacy in some of the most formidable diseases which afflict mankind.

The following case is among the most remarkable in the book, and we will only observe, that it is stated in regard to its use in consumption, that 'we should select, in its application those parts of the chest which are nearest to the diseased portion of the lungs,' which the author thinks may be ascertained by percussion better than in any other way.

‘One of my patients was a young lady, about nineteen years of age, Rosina V——, tall, with light, fair hair, and a flattened chest; there was an incipient curvature of the spine, with an unnatural projection of several of the spinous processes of the dorsal vertebræ. She had permanent pains in this region, frequent cough, with aphonia, oppression, a yellow, purulent expectoration, a heat, more or less urgent, in the sternal region, and the sides of the chest, and a slow fever, with an evening paroxysm, followed by night sweats. All these symptoms announced a phthisis, carried at least to the second stage. This young lady was excessively emaciated, and had been in this state eight or ten months. A great number of remedies had been vainly employed.

‘Thirteen moxas, applied on the sides of the spinous processes of the dorsal vertebræ, and the chest, and preceded by cupping with scarification, applied successively at convenient intervals, conducted the patient, after a treatment of eight months, to a complete cure. This lady has been since married, and has two children, who enjoy, with their mother, good health.’

The *second* Essay is on the seat and effects of Nostalgia, with some reflections on partial lesions of the brain, resulting from spontaneous or mechanical causes. The situation which the author held in the army during the long protracted wars on the continent, gave him the most ample field for observing the effects of nostalgia or homesickness, which, it appears from his statements was very common among the soldiers. We were not aware, before reading this article, that this disease was of so frequent occurrence, or of so fatal a character, and it is by no means improbable that both of these circumstances might have been owing in a great measure to the peculiar manner in which the armies of Napoleon were made up, as well as the peculiar materials of which they were composed. His troops, it is well known, were never obtained by voluntary enlistment, but were always drawn by the conscription, and vast numbers were natives of other countries, speaking a different language, having no community of feeling or interest with those under whom they served, and who were compelled to adopt a military life because their sovereigns had been forced into an alliance with France. We know of no other cause that should have rendered this disease so much more prevalent in the Imperial Army, as it certainly seems to have been, than in any other of which we have any knowledge.

Baron Larrey informs us that troops from cold and moist climates, like Holland, and mountainous countries, like Switzerland, are most liable to the disease, and that many soldiers of these nations were afflicted with it in the memorable retreat from Moscow.

The predisposing cause is the removal from one's native country and home, and among the exciting causes the author mentions slavery, imprisonment, idleness, venery, onanism, &c. The state of the atmosphere seems also to have some influence, as the disease most frequently appears when the mercury suddenly rises in the barometer. The proximate cause is an inflammation of the surface of the brain, in which the tunica arachnoides and the pia mater usually participate. Mental aberration is noticed among the first symptoms of nostalgia; this is attended with an increased pulse, great heat about the head, redness of the conjunctiva, and frequently a wild and incoherent manner of talking. This state of pyrexia is succeeded by that of torpor, and the stomach and bowels appear to be next affected, and their functions are deranged.

The third stage is that of debility, both of body and mind, and in some instances the disease assumes the character of hydrophobia. Post mortem examinations show, 1st. that the surface of the brain has suffered from severe inflammation, and that its substance is softened. 2d. That the lungs are engorged with blood; and 3d. that the stomach and bowels are distended with flatus, without being in a state of inflammation.

With regard to the *mode of treatment*, the author advises depletion in the *first stage*, both general and local, cold applications to the head, and resort to such measures as would be likely to occupy and amuse the mind of the patient, while they gave gentle exercise to his body. In the *second stage*, the strength is to be supported by light cordials, moxa or cautery may be applied to the base of the cranium, and stimulating frictions to all parts of the body. 'In the *third stage*, art can do but little, we can only look to nature to produce a salutary crisis. We ought however during the whole course of this dangerous malady, to treat our patient with great mildness and kindness.'

There is one part of this Essay which is entitled to a little more notice; it is that in which the author attempts to give some support to the whimsical theory of Dr Gall, that certain portions of the brain are the seats of certain propensities, and that the force of these propensities is marked by a greater or less development of the supposed seat, which produces an effect on the corresponding portion of the cranium, so that the state of a man's inclinations or capacities may be ascertained by an examination of the superficies of his skull. The organs of the intellectual functions, according to Dr Gall and Baron Larrey, 'reside in the circumvolutions which occupy the surface of the anterior and superior half of the hemispheres of the brain,' and hence these functions are affected in the first stage of nostalgia, and the or-

gans of sense and locomotion are seated in the base of the brain. It is astonishing that a practical man, one familiar as the author must be with every kind of injury of the head, can for a moment give his sanction to a theory which is daily contradicted by facts. It would lead us too far from our present purpose to enter at any length into a discussion of this subject, we will therefore only remark that large portions 'of the anterior and superior half of the hemispheres of the brain,' are frequently removed by accident, without destroying or even impairing the intellectual functions; and a case of this kind has recently occurred in this vicinity, in which from one quarter to one third of the brain was removed, and the functions of the mind continued. In those accidents in which a portion of the skull is depressed and the intellectual faculties are in consequence for a time suspended, the effect on the mind is not from the pressure on the portion of brain immediately beneath the depressed bone, for this portion may be wholly removed and the mind will remain unimpaired, but it arises from the effect produced upon some more important part.

This theory, which would confine each of the intellectual faculties to some determinate part of the brain, renders, as it seems to us, the principal subordinate to the agent, gives to matter a superiority over mind. We are unable to discover any reason for believing that one portion of the brain is the exclusive seat of any one intellectual faculty, and we must continue to believe, until we are furnished with some new light upon the subject, that the brain is a mere instrument by which the mind operates.

The *third* Essay is entitled 'Remarks on the Properties of the Iris.' Baron Larrey observes that it has been generally supposed that the iris was dependant on the optic nerve or retina for its contractile properties; numerous facts and observations however have convinced him that this opinion is incorrect. He maintains that the retina may be diseased without affecting the iris and vice versa, and hence infers that the properties of the iris are independent of the retina. The iris may also 'lose its organic properties, while the optic nerve, retina and other parts of the eye preserve perfectly their integrity, and execute all their functions.' He proceeds to show in what manner the dilatation and contraction of the pupil is effected and endeavours to explain its mechanism. 'It may be presumed,' he remarks 'that the stimulus which produces the contraction of the fibres of the iris is exclusively furnished by the nervous branches which arise from the ophthalmic ganglion.' He concludes 'that the iris is a mixed organ, a portion of which to a certain extent, is submissive to the control of the will of the in-

dividual, while another portion executes its motions without this participation.'

The *fourth* Essay is on 'Wounds of the Intestines.' This is a very short article and necessarily a very incomplete and imperfect view of the subject, in every respect less satisfactory than the valuable treatise of Mr Travers. We shall therefore not give an analysis of it, but merely make one extract respecting the yellow fever, as we think there are some strong facts that might be adduced in support of this theory.

'The yellow fever appears to me to consist principally, in an inflammation, more or less severe, of the serous membrane of the abdominal viscera; having for its principal symptoms, pains of the intestines and vomiting, as in spontaneous cholera morbus, a malady from which the yellow fever does not essentially differ.'

'Fractures of the Neck of the Femur' form the subject of the *fifth* Essay.

This accident rarely occurs till the approach of old age. The author assigns reasons for this, speaks of the other injuries with which it may be confounded, and gives its diagnosis. He maintains, in opposition to the commonly received opinion, that a crepitus may be perceived and heard upon motion of the thigh. He considers that the fracture is united by bony union, if at all, and that the osseous matter is conveyed by the arteries, wholly independent of the periosteum. He does not however distinguish between fractures within the capsule and those which are without, and his opinion can of course have no bearing on the question that has recently been discussed with some warmth in England between Sir Astley Cooper and Mr Henry Earle, the former contending that bony union never takes place in fractures of the first description, which the latter positively denies. We shall probably have occasion in a future number to notice this subject at some length, when we receive the publications to which we have just alluded.

Baron Larrey speaks very fully of the treatment, and condemns both that of extension and counter-extension and that of flexion. The first indication is to bring the fragments together, and the second is to retain them in that position, both of which, he says, may be effected without resorting to either of the methods just noticed, by following his directions, which we have not room to transcribe. The whole paper is well worthy an attentive perusal, and any abstract we could make would give but a very imperfect idea of it.

The *last* Essay consists of observations 'on Wounds of the Bladder.' This subject, he thinks, has been neglected, and those authors who have treated of it have said but little of the

diagnosis or proper mode of managing these accidents, 'especially when they are complicated with the presence of foreign bodies in the bladder, which is the principal object of the present essay.'

He speaks of the effects of punctured, incised and gun-shot wounds of the bladder. In the two first, if the wound be through a part of it, whose parietes are covered by the peritoneum it is generally fatal, from the escape of urine into the cavity of the abdomen, and the consequent inflammation and gangrene. Death usually takes place within eight and forty hours. If a part of the bladder be wounded however which is not covered by the peritoneum, the patient frequently recovers, unless some important vessels are injured and great internal hemorrhage ensues.

'If the ball, after entering the bladder, still preserve its momentum, it will pass through the opposite side, and either escape externally, or bury itself in the surrounding parts. In this case, the urine will escape immediately, mixed with blood, by one or both wounds. There will be a diminution, or total suppression of urine by the urethra; the patient will pass more or less blood through this passage; he will experience severe and permanent pains in the direction of the wound; there will be frequent and painful attempts to urinate with nausea, and sometimes vomiting; extreme anxiety and restlessness; paleness of the countenance; spasmodic state of the pulse; and the patient will often moan, or utter plaintive cries. In entering or passing out, the ball may have injured the rectum; the urine will then enter into this intestine, and, mixed with its contents, pass out through the wound, when there will not remain any doubt of the double lesion of these organs.

'Should the bladder be perforated at a point corresponding with the cavity of the abdomen; as for example, where it is covered on its posterior part by the peritoneum, the urine generally extravasates into this cavity, causing an inflammation of that membrane. This spreads rapidly over all the viscera, producing pain, oppression, internal heat, stupor, gangrene and death.' pp. 296, 297.

'In every case, it is proper to dilate freely the wound at which the ball has entered and passed out; taking care, of course, not to wound important parts. This will be found to prevent engorgement and inflammation, which usually supervene when this precaution is neglected. By unloading the vessels, it has the effect of local bleeding; an effect much more salutary than can be obtained from opening one of the veins of the arm or leg; the eschars are detached more easily, and are readily expelled, and the cicatrization will, of course, be more rapid and exact. A pledget of lint over each wound, some compresses, and a retentive bandage, form the first dressing. It is necessary to subject the patient to a cooling, mucilaginous regimen, to prescribe emollient enemata, vapour

baths, and embrocations of camphorated oil or chamomile over the abdomen.' pp. 299, 300.

We have not room for any further extracts, though many highly useful and interesting ones might be made; it is rather our object to give to our readers by those we do make and by our analysis, the means of judging for themselves of the value of the work under notice. We have said but little of the defects of the present volume, because it is pleasanter to dwell upon the important and valuable matter it contains, though it must be admitted that this is blended with much that is useless. There is besides a great want of method, connexion and precision, and what is useful is not unfrequently buried under the rubbish of tedious and irrelevant details. It requires some patience to cull the useful out of the unimportant matter, which is to be found in every part of the volume, at the same time it must be confessed that the valuable portions will fully repay for all the labour that may be necessary to do it.

ARTICLE IV.

Essays on various subjects connected with Midwifery. By W^M. P. DEWEES, M. D. Mem. Amer. Phil. Soc. Mem. Philad. Med. Soc. Mem. Academy of Med. &c. Philadelphia, 1823.

DR DEWEES' work is a reprint of papers which have been published at various times in the Philadelphia medical journals. Its contents are micellaneous, but all of them relate to the functions of the uterus in health and disease. Some of the papers are speculative, some of them criticisms of prevalent opinions, a third class contains cases, while a fourth is a union of all. We shall in general follow the order in which the articles occur in the volume, confining ourselves for the most part to the more practical essays in the volume.

The first article is an essay on superfœtation. Superfœtation implies that a second impregnation may take place, whilst a child is in utero. This subject involves two distinct questions. One of them is physiological, and has been thus stated: 'Is superfœtation possible, and under what circumstances, and at what period of gestation can a second conception take place.'—*Paris & Foulblanque, Med. Jurisp.*

The second is a judicial question and has been stated thus: 'A woman loses her husband suddenly, *tenant in tail male*, a month after marriage, and at a little more than eight months after his decease she is delivered of a perfect female child, and at

nine months, she declares that she is delivered of another infant, which is a male. The heir at law, who has entered contests the fact of this latter birth; the question therefore to be determined is whether such an event is compatible with the known laws of utero-gestation.'—*Ibid.*

Dr Dewees' essay is on the possibility of superfœtation. Its judicial bearings have but little interest in this country, where the custom of entail is either unknown, or has nearly fallen into disuse. We are also disposed to think that the belief in the possibility of the fact, is as rare amongst us as the custom referred to, and we should not have noticed this essay at all, had it not been that the author comes forward as a reviver of the doctrine, and in support of it, revives an old doctrine of impregnation, that of absorption. Two cases are given at the close of the essay as instances of superfœtation. We shall give them at length.

'On the 10th October, 1799, at 5 o'clock P. M. I delivered a lady of a fine healthy boy, after a labour of some hours. After a careful delivery of the placenta, I examined my patient by the vagina, and also by a hand upon the abdomen, to discover if there was another child, (for it was supposed by the lady's friends she was pregnant with twins) but could discover nothing like one. She was therefore put to bed, and enjoyed a sleep of several hours: she was roused from this, at length, by severe and regular pains; after they had continued some time, she felt something protruding from the vagina: this gave great alarm to her nurse and friends, and I was immediately sent for. When I arrived I found them in the greatest alarm; they supposing it was the uterus which had passed out. I immediately examined my patient, and found, instead of the uterus, an ovum complete. I extracted it carefully and entire. Upon opening the membranes, an embryo of between three and four months presented itself, looking fresh and almost transparent; the funis large, white, and shining; the placenta healthy and entire; the blood on its maternal surface rather florid, a proof it had not long been detached from the uterus; the waters clear, abundant and gelatinous; in a word, every thing looked as though the child had just parted with life. Those who are in the habit of seeing abortions, very readily distinguish between those which have just been deprived of life, and those which have parted with it a long time; this bore every mark of freshness. I was therefore much struck with its singularity.

'The following considerations will, I think, establish beyond doubt that it was a case of superfœtation:

'First, the absence of hæmorrhagy during the whole period of gestation; which would not have been the case, had the placenta been any time detached before the period of labour.

‘Secondly, the ovum having nothing in common with the full-grown foetus; on the contrary, it had its own membranes, water, placenta, &c.

‘Thirdly, the fresh and sound appearance of the ovum.

‘Fourthly, it having maintained its attachment to the uterus, after the birth of the other child; or at least it did not descend, so as to be discoverable by a careful examination by the vagina and otherwise, which renders its attachment more than probable, since this must and would have happened by the common tonic contraction of the uterus* after the birth of the other child and placenta; and that the uterus did contract is certain, as no hæmorrhage followed the extraction of the placenta.’

‘A white woman, servant to Mr H of Abington township, Montgomery county, was delivered about five and twenty years since of twins; one of which was perfectly white; the other perfectly black. When I resided in that neighbourhood, I was in the habit of seeing them almost daily, and also had frequent conversations with Mrs H. respecting them. She was present at their birth, so that no possible deception could have been practised respecting them. The white girl is delicate, fair skinned, light haired, and blue eyed, and is said to very much resemble the mother. The other has all the characterising marks of the African; short of stature, flat, broad nosed, thick lipped, woolly headed, flat footed, and projecting heels: she is said to resemble a negro they had on the farm, but with whom the mother never would acknowledge an intimacy; but of this there was no doubt, as both he and the white man with whom her connexion was detected, ran from the neighbourhood as soon as it was known the girl was with child.

‘We might produce other instances of superfœtation from the most respectable authorities, such as Aristotle, Harvey, &c. but suppose the above two sufficient, as it ought perhaps to be more a matter of surprise, why it does not more frequently take place, than that it should occasionally happen; as its occurrence or non-occurrence, entirely depends on the contingency of the sooner or later arriving at maturity, of the ova, and the absorption of semen.’—pp. 20—22.

Respecting the first of these cases, we confess we can regard it only as a case of twins, produced after the ordinary manner. The explanation of the difference of size in these foetusses is not very difficult. The ova were distinct, and continued so. The placentas of the foetusses were also distinct, and the development of each foetus necessarily depended on contingent circumstances; the extent of the placenta; its thickness, and it may be its situation. Where the placentas are thus distinct, it is not very difficult to conceive that one of them may grow more rapidly

* By conic [tonic] contraction, we mean that regular and constant contraction whereby the uterus is reduced to its original size, after the distending causes are removed.’

than the other, and at its expense. Where they are intimately united, and the cords spring from one and the same organ, it ordinarily happens that the *foetusses* arrive nearly at the same size, and are born so, but even this is not invariable, for one *foetus* under these circumstances precisely, may be blighted and thrown off, while the second remains to the full time in utero; or they continue together one having marks of being long dead when born, or as in the present case having received but a partial supply of food, is born as if premature.

We think this explanation of supposed cases of superfœtation far more probable than the doctrine which teaches that a second ovum may be forced into the uterus at the fifth or sixth month of pregnancy, without exciting uterine contraction and abortion, and afterwards become attached to the uterus. Ordinarily the womb makes preparation for the ovum some days before it reaches its cavity; but in the above case, and so of all superfœtations, no preparation could have been made, and thus the uterus cannot furnish the means for such an attachment of the ovum to the womb, as would subserve the purpose of its growth.

We do not see that the question of the possibility of superfœtation involves any of our theories of conception. We know nothing, we had almost said, of this function. Dr Dewees has one sentence in this connection which contains the truth of the whole matter, and to which we give our whole assent: 'The male semen seems absolutely necessary to the production of the animal, and is in some way effectually applied to the ovum or ova, and thus produces the phenomena of impregnation.'—*pp.* 18, 19. This short sentence contains the amount of our knowledge respecting impregnation, and we must look to the gravid womb alone, its actual state, and the laws which govern the ordinary processes going on in it, for a rational explanation, of what appear deviations from these. This state and these laws are, as it seems to us, incompatible with the reception, and future development of a second *foetus* in the uterine cavity.

The second case related by Dr Dewees was reported to him by a credible witness. As Dr D. however was not present at the birth, we feel less delicacy than we might otherwise have done, in expressing our scepticism respecting it. The case is in the predicament of many other facts and arguments, which are advanced in support of a favourite hypothesis. It proves too much, for it not only proves the possibility of superfœtation, but also contradicts the best established facts respecting the issue of parents of opposite colours. The child of the black parent should have been a *mulatto*, and a very light one too, instead of being *perfectly black*, and farther it should have been at least partially

European in its general appearance, instead of exhibiting all the peculiarities of the African.

An examination of Dr Orsburns (Osborn's) opinion of the Physical necessity of pain and difficulty in Human Parturition.

Dr Osborn in his 'Practice of Midwifery' teaches the physical necessity of pain and difficulty in human parturition, and finds the remote cause of these evils in the erect position of the human female. To obviate the effects of gravity incident to the erect position, the axis and diameters of the pelvis have such relations to the uterine cavity at the full time, and with each other as to oppose natural obstacles to easy delivery. Dr Dewees opposes this doctrine, and attributes the pains of labour to civilization. He quotes largely from travellers to show that labour is as painless in uncivilized countries as in brutes. The following extracts contain Dr Dewees' views on this subject.

'If it should be asked, why pain occurs for the most part, in labours that are so rapid as to employ but a few minutes, I would answer:

'That the uterus possesses two distinct kinds of action; the one, regular and constant, and always tending to diminish its capacity, when its sides are distended, or when the distending force is withdrawn; it is capable of occasional and powerful augmentation, and, in a natural and unperverted state, is sufficient to effect the delivery of the child. Of this kind, is that action which reduces the uterus to its original bulk after delivery; of this kind, is that action which effects delivery among females in a savage state, and among those of Calabria, &c.; of this kind, is that action of the uteri of brutes which relieves them of their burden; of this kind, is that effort which expels the child after visible life has ceased in the mother: * this kind of action or contraction of the uterus is not necessarily attended with pain. This is called the tonic contraction of the uterus. The other action of the uterus is an alternate one, and is, for the most part attended with pain. This is a distinct action from the other; and in this instance dependent on it.

'This last kind of contraction of the uterus, namely, the alternate, when attended by pain, I am disposed to consider for the most part, if not altogether, artificial or accidental to women; my reasons for thinking so are:—

'First. No physical or absolute necessity for pain ever has been, or ever can be demonstrated.

'Secondly. Women in a state of nature, are, for the most part, exempt from it.

'Thirdly. If analogy will be allowed to be called in, I can urge, the exemption of brute animals from it, though possessing very similar conformation of pelvis, &c. to the human.

'Fourthly. Many women, among those who for the most part have pain in their labours, are sometimes free from it.

* Harvey, Baudelocque, &c.

‘Fifthly. It not being essential to delivery, as children have been born after the death of their mothers, by the tonic contraction of the uterus alone; and many women have pains in various parts of their bodies independent of the uterus; as in the jaws, head, knees, &c.

‘Pain is in very various proportions among women who are equally well formed; we generally find the women of the country more obnoxious to it than those of cities; and the hard-working or laborious part of those in cities, more afflicted than those who live more luxuriously and indolently. Various reasons might be assigned for this difference; I shall however only observe, that, wherever we find that state of fibre which is termed rigid, we shall there find also, *cæteris paribus*, more pain during labour; with this state of fibre there appears to be connected, (or it may exist in this very state,) a greater disposition in the system in general, or in the uterus in particular, to take on what is termed, inflammatory action;—and hence, the utility of blood-letting, and that sometimes to a great extent, in those labours that are attended with rigid os uteri, or unyielding external parts; I have frequently seen this remedy act like a charm; it not only hastens the labour, by diminishing the resistance of the soft parts, but also, by the same means, abate pain, as there is now a lesser obstacle to overcome.

‘From what has been said, it would appear, that the general effects of society and refinement, have produced certain changes on the human female constitution; and that these changes have produced their consequences; which consequences have given rise and continuance, to pain and difficulty in human parturition.’—pp. 32—34.

In remarking on these views, we observe in the first place, that there is a very marked difference between the state of the uterus when filled with the fœtus and its appendages, and when emptied of these, and that though in the last case it may, and frequently does, return silently, and without pain to the original dimensions of the unimpregnated state, we should not suspect it would do the same when a large solid mass distends it, and for the time, permanently opposes the approximation of its sides. What are the ordinary phenomena of a favourable case of labour? The early efforts of the uterus are hardly perceptible, and the dilatation of its mouth is in exact proportion to them. Intervals however occur between these very slight efforts. They gradually increase in power, and the changes in the mouth of the womb correspond precisely with this increase. The womb becomes shorter, for the head enters the brim of the pelvis, and the membranes protrude into the vagina. The uterine contraction however even now, is not constant. The uterus does not retain what it may have gained. Intervals still occur, and the membranes become flaccid. The woman is conscious of a difference between these contractions and their remissions. No acute pain is complained of, or is felt. She is conscious that the uterus is act-

ing and is disposed to assist it. This is done by ceasing, during its action, from any occupation, as walking, talking, &c. and by a forcible retention of the breath. The face becomes flushed at these times, and the pulse forcible and hurried. It is evident that some obstacle exists to the easy or uninterrupted progress of the child. Intervals continue to occur. Great and very painful efforts are not required, and are not produced. The womb in all this is influenced by the same laws which govern other muscular structures. All muscles cease to contract after intervals of various length, even while the cause which first excited the action continues applied to them; and relaxation or the state of rest follows. Antagonist muscles may assist in producing this effect in ordinary cases. The uterus has no antagonist muscles, but the foetus produces effects precisely similar to those which antagonist muscles may in other cases. It resists for the time the farther contraction of the uterus, and a state of rest is ultimately induced. The state of rest in such a structure, is a state of relaxation, and this actually takes place after the temporary efforts of the womb ceases, and the presenting part recedes. As the labour advances the efforts increase in strength, and are longer continued, and the intervals become shorter. The explanation of these facts is easy. The obstacles to the passage of the child increase with its progress through the pelvis, for in this progress its longest diameter becomes engaged in the shorter diameter of the outlet. It is to be accommodated however to the longest diameter of this strait of the pelvis, and this is done by the actions of the uterus, increasing with the increase in the obstruction below, favoured by peculiarities in the structure of the pelvis. The obstruction to the delivery though small prevents the foetus from advancing under the slight contractions of the womb which heretofore have answered this purpose, and the organ is excited to greater efforts, to overcome the difficulty. The intervals are also shorter, for the cause which has produced the greater effort, exists and increases in the progress of the case, and thus becomes a stimulus to almost uninterrupted exertion.

Our object in these remarks is to show why we differ from Dr Dewees in his explanation of the nature of the uterine action which accomplishes delivery. It is not an uninterrupted effort, by which the uterus endeavours by expelling its contents to return to its original state. It is an interrupted effort, and admirably adapted to the exigencies of the case. Our objection is found in the phenomena of labour when presented to us under its most favourable character, and is supported by what we know of the action of similar structures with that of the uterus in other parts of the body.

If now this be the true explanation of the most natural labour, it is not difficult to account for the very painful nature of this process which is frequently displayed in an artificial state of society. The functions of the uterus are disturbed along with other functions. A true correspondence does not always obtain between the functions of the mouth of the womb and those of its fundus and body. The former may remain closed (but not rigid) while the latter is experiencing powerful contractions; and its dilatation, which in health is wholly *functional*, may come to be effected by the mechanical pressure of the fœtus. Instead of a healthy contraction of the uterine fibres we may have a spasmodic action. This may be general, or what is more common, partial, producing local pain of greater or less intensity. These efforts however in one respect resemble genuine labour. They occur at *intervals*, and they owe this circumstance in their history to the original and essential character of true labour pains. It is not that an artificial state of society has changed the whole nature of the functions, and involuntary functions too, of an important organ, but has concurred with other causes to render more or less painful a process, which in a more simple state of society induces less distress or inconvenience.

The reasonings and facts of Dr Dewees on this subject, possess one feature which was noticed in our remarks on the essay on superfoetation. They prove too much. They not only prove that civilization is the sole cause of the intermitting and painful nature of labour pains, (we use this term technically) but that women living in the country, who know but little of luxury and who practice less indulgence, suffer more in labour than luxurious women in cities. We should certainly have thought more of the argument, had the facts derived from this latter class, supported it better.

The next paper is entitled, 'Observations on Dr Denman's aphorisms on the use of the forceps.' Dr Dewees, says he, is induced to offer these observations from a conviction long felt of the 'imperfection, contradiction, and ambiguity' of these aphorisms. He further says, 'I have not attempted to remedy these defects; but have, I trust, from a careful examination of them, pointed out what appeared faulty, and given satisfactory reasons for my dissent.' p. 39. In the examination we propose to make of this essay, it is no part of our purpose to offer a defence of the aphorisms of Dr Denman, but by a simple statement of the practical construction they will all bear, to show that they justly deserve the high character which, till the appearance of this essay, they have uniformly received.

Dr Dewees' criticism begins with the first aphorism.

“ *Class I. Natural Labours.* ”

‘ *Character.* “ Every labour in which the process is completed within twenty-four hours: the head of the child presenting; and no adventitious aid being required.” ’

“ 1. The face inclined towards the sacrum.

“ 2. The face inclined towards the ossa pubis.

“ 3. The head presenting with one or both arms.

“ 4. The face presenting.” —p. 40.

Dr Dewees’ principal objections are to the 4th Variety, ‘ *The face presenting.* ’ He objects because some authors, in speaking of head presentations, confine the term to the vertex; and because the face case is in the great majority of cases a difficult one. But as the face has a natural connection with the head, and the labour in some cases is completed within the *time* of natural labour, and without adventitious aid, Dr Denman did no violence to his classification by including the face presentation in his ‘ *Varieties* ’ of natural labour. This arrangement interferes with none of the rules of practice which are applicable to cases of difficult labour where the face presents: and inasmuch as the vertex presentation is not unfrequently found among the most difficult cases of labour, a strong objection might be found to including even this last in the class natural labours, and the class itself be thus destroyed.

Dr Dewees next objects to the definition of ‘ *Difficult Labours.* ’ The ‘ *mistakes* ’ of Dr Denman, though numerous in this definition, are not thought important enough to detain our author, and he passes to Sect. I. Aph. iv.

‘ The intention in the use of the forceps is, to preserve the lives both of the mother and child, but the necessity for using them, must be decided by the circumstances of the mother alone.’ p. 42.

What now we would ask is the true understanding of this aphorism, and how has it universally been understood by practitioners of midwifery? There are two distinct propositions contained in this aphorism, and though the last appears as an inference from the first, it has still a distinct and independent meaning. The first proposition is as follows. ‘ The intention in the use of the forceps is, to preserve the lives both of the mother and child.’ Its propriety and correctness is founded simply in this, that there are other means, other instruments besides the forceps which may be and are employed in difficult labour, which, while they are perfectly safe as it regards the mother, are necessarily fatal to the child. The proposition is thus a perfectly proper and wise one, for it contains, and is understood to contain, the great and leading purpose or intention in the use of the forceps, the safety as it regards the instrument, of both mother and child; while at the

same time it distinguishes this instrument from others which are fatal to the child.

In the second proposition of this aphorism we have stated in what the "*necessity*" for the use of the forceps is to be looked for and found. This, says Dr Denman, is "*decided by the circumstances of the mother alone.*" We have always regarded this as the true doctrine, and cannot but recommend it as a most valuable precept. We know of no other source of information in these cases, but the '*circumstances of the mother.*' And what do these teach us? In answering this question, let it be distinctly borne in mind, that the foetal head in the pelvis, whilst it is subjected during labour pains to great pressure against the various parts of the pelvis with which it comes in contact, is at the same time compressing with an equal force the parts with which it so comes in contact; and to answer the above question fairly, our inquiry is resolved into this, upon which structure the pressure is most likely to do the greatest injury, on the child's head, including the brain; or the bladder, the rectum, the muscular, cellular, nervous and other tissues which are contained in or line the pelvis? The question is stated as one of probability, but our answer is to be found in facts. These facts speak but one language. It is, that the soft parts proper to the pelvis, are the first to receive injury, and give the first intimation that the labour has become injurious by its length, and that if it be allowed to go on, it may be ruinous in its effects. We know nothing of the fate of the child. It may be alive, though no motion has been perceived by the mother for hours before; or it may be dead, and have been long dead, notwithstanding the assurances of the mother that the foetal movements have been constantly, and are still felt. We have distinctly in mind one case at least, in which the welfare of the child was made a ground of opposition by the mother, to the use of any artificial assistance and its supposed movements referred to as full evidence of its being alive. The child was at last delivered by the efforts of the womb. It was dead, and had marks of having been long dead. The mother survived but four days. We are then to be governed by the circumstances of the mother alone, in settling the important question, whether a case shall be trusted longer to nature, or whether artificial means must be employed. What these circumstances are, are fully stated by Dr Denman in his great work the '*Introduction,*' on which the '*aphorisms*' are strictly founded.

We shall now offer the reader Dr Dewees' comment on this aphorism.

'I consider this aphorism very deficient, or perhaps more pro-

perly speaking, very faulty; it is acknowledged, that "the intention in the use of the forceps is, to preserve the lives both of the mother and child;" but we are immediately after told, "the necessity for using them, must be decided by the circumstances of the mother only:" did we always literally obey this precept, it would be impossible to fulfil the indication for which the forceps were prescribed. It is a glaring and palpable solecism, indeed, we had nearly said Irishism; for it seems to declare, you are to save by the forceps both mother and child; but if there is no "circumstance" on the part of the mother that would require their use; that is, (as I understand it,) if she herself is in no danger, or can eventually, no matter how long, expel the child, you must not use them, however important they may be to the preservation of the child. *Need it be said, if this advice be followed, it would prove the destruction of very many lives? for instance, when the head is very far advanced, and the vertex is about to emerge from under the arch of the pubes, but is retained there, by the extraordinary size of the child's head, by its uncommon ossification, or the unusual rigidity of the external parts; ought we run the risk of losing the child by withholding the forceps, because the indication is not taken from the circumstances of the mother? Or, let us suppose the body and shoulders of the child to be delivered, and its head to be retained at the inferior strait; in this situation, it would inevitably perish were it to continue long, nay, but a short time: ought we to abandon the poor infant to its fate, because its head may have been either positively or relatively too large, to be immediately expelled by the common efforts of the mother? or because, there was no "circumstance" on the part of the mother, that required this immediate interference? The use of the forceps under "circumstances" of this kind has been considered by Baudelocque, as a valuable improvement in midwifery, and he does not fail giving the very justly merited praise to Smellie for the discovery.*—pp. 42, 43.

We have put into italics that portion of the commentary which seems to deserve notice. This however need not detain us but a moment. All the above supposed circumstances which might require the use of the forceps, are among the very 'circumstances of the mother alone' on which, according to Dr Denman the necessity for the use of the forceps depends. They are the circumstances of the mother, which by the very supposition indefinitely check the progress of the case, leading directly to the most alarming consequences, and equally involving danger to both mother and child.

'Aph. 5. "It is meant, when the forceps are used, to supply with them the insufficiency, or want of labour pains; but so long as the pains continue, we have reason to hope they will produce their effect, and shall be justified in waiting." '—p. 43.

This aphorism, like the former, contains two distinct propositions, but perfectly reconcilable, and truly qualifying each

other. Where pains are *insufficient*, or *wanting*, the intention in the use of the forceps is to supply the *deficiency*. If however pains continue we may defer their use. The student might ask, what sort of pains may the case be farther trusted to. The answer is a direct inference from the first proposition in the aphorism. Pains that are not *insufficient*, but such as produce some effect on the head; and bearing in mind the former aphorism, the 'circumstances of the mother' being such as to authorize farther delay.

By Dr Dewees this aphorism is viewed in a very different light from the above. He regards it as full of error and leading to most fatal consequences. What would it lead to, he asks, 'in cases of convulsions on the *accession of the pains*?' We should hope that few physicians could be found amongst us so rash as to *begin* the treatment of puerperal convulsions occurring with the *accession of pains*, by the application and use of the forceps. We can conceive of no treatment which could be more injurious. Dr Denman in the 'INTRODUCTION' has fully and admirably pointed out the treatment of puerperal convulsions. It is as fully treated of in its proper place in the *Aphorisms* as the nature of such a work would possibly permit.

'Aph. 9. "*A rule for the time of applying the forceps has been formed from this circumstance; that, after the cessation of the pains, the head of the child should have rested six hours in such a situation as to allow the use of the forceps.*"'

Dr Denman is here simply stating what the practical rule was as to the time of using the forceps, at the period when he wrote his book, and we are to presume he states it fairly. In his next aphorism he tells what the value of this rule is, or how far it must be taken as a practical guide.

'Aph. 10. "*But this and every other rule intended to prevent the rash and unnecessary use of the forceps, must be subject to the judgment of the person who may have the management of any individual case.*"'

And to add still further to the perfection of his work, we have this important aphorism, the 11th, which comes in full aid of the 4th.

'Care is also to be taken that we do not, through an aversion to instruments, too long delay that assistance we have the power of affording with them.'

The leading objection to the aphorisms just quoted is, that they leave unsettled many important questions, and thus give a discretionary power to the practitioner, which he has not been taught in these aphorisms how to exercise;—that the work was designed 'for students,' and should therefore have contained

every thing to make them accomplished practitioners. We are not disposed to admit the reasoning here, which the premises at first view would seem to warrant. The aphorisms were designed for the student, and he will derive from them very valuable assistance in actual practice. They are printed in a very convenient form, and may be easily referred to when his own generalizations from his own diligent studies, may fail of furnishing him with the practical rule which circumstances require him to apply. The aphorisms were intended for 'students,' but not during their pupillage. For such, Dr Denman had published the most valuable instructions, in his 'Introduction.' The aphorisms were designed for the practical student, who, in the hurry of business, finds frequent demands for the rule, when he has no time for the reasonings. For such students the work must answer most important purposes. The case is carried to the book, instead of the book to the case; and he who understands the case to which the rule is applicable, has made the highest use of his professional knowledge, and may safely be trusted with the discretionary power with which Dr Denman has invested him.

'Aph. 13. "*The lower the head of the child has descended, and the longer the use of the forceps is deferred, the easier will in general their application be, the success of the operation more certain, and the hazard of doing mischief less.*"'

The objections to this aphorism advanced by Dr Dewees, are its want of caution, and the narrow limits within which it restricts the use of the forceps. We are again asked with such a rule as this, what we should do in 'convulsions, syncope, floodings, *strangulated hernia*?' &c.—and it is objected, 'that in cases of this kind, a moment's delay may be fatal.' p. 48. We have already replied to the question, in the remarks made on instrumental assistance in puerperal convulsions occurring in the accession of pains. We have a word or two for the objection. How does this aphorism narrow the limits, in the use of the forceps, and in what does the want of caution in it consist? It means nothing more nor less, than this, the lower the head before the forceps is applied, the easier will the use of the instrument be. This is its whole doctrine, and it is little more than a truism. The passage 'and the longer the use of the forceps is deferred' from its connection, implies, 'with safety to the mother;' or rather this, and the former passage are strictly convertible; the latter, being only another mode of expressing the sense of the former. It can mislead only the grossly ignorant, and Dr Denman had not such in his view, when he designed his aphorisms.

There is one subject in the aphorisms respecting which the views of Dr Denman have been demonstrated to be incorrect.

We refer to what he terms the 'Spontaneous Evolution of the Fœtus.' It is to be regretted that our author's plan did not embrace this subject.

The remainder of the commentary is occupied with criticisms and corrections of the rules in the aphorisms, for the application and use of the forceps. An examination of these, would require far more room than we can now spare; and we pass to the next article, 'on the Efficacy of Blood-letting in rigidity of the os externum.' Three cases are stated more or less at length, in which blood-letting was useful in an undilatable state of the os externum.

At page seventy-five we have a case of '*ruptured womb*.' The following extracts contain Dr Dewees' views on the various methods of treating cases of ruptured womb.

'No point of obstetrical practice is more unsettled than this: but why it is so, is difficult to say, since it may become obedient to rule, without the smallest difficulty, or involving in it the slightest doubt or contradiction.

'We have three principal directions on this subject; by the first we are told it is improper to do any thing, since it is conceived no effort can be availing; the patient is here allowed to expire without an endeavour to save her; of this class were the respectable Dr W. Hunter, Dr Denman, and some others of less celebrity. Dr Douglass, in a treatise on this subject, has combated this mischievous supineness so successfully, that it would be idle to say any thing more on this subject.

'By the second, we are recommended to deliver as expeditiously as possible through the pelvis; this practice is sanctioned by more numerous, and not less respectable names than the first, among whom we may mention La Motte, Levret, &c. This plan has a decided preference over the other, since it offers assistance, and some women have escaped from death by it.

'By the third, we are taught to believe the woman has no resource but in the *cæsarean section* :* this plan, agreeably to Baudelocque, was originally suggested by the ingenious but timid Levret, but in terms so indirect, as clearly shows both his knowledge of the subject, and the prejudices it would have to encounter.

'Having thus briefly stated the various opinions of authors on this subject, I shall take the liberty to say, that either is wrong if implicitly followed; and to be right upon this subject requires the adoption of all three, as circumstances may require. It must however be remarked, that the first can never be followed without incurring the imputation of blameable timidity, except where the pa-

* The operation called the *cæsarean section* strictly speaking, comprehends the section of the *uterus* as well as of the abdominal parietes, and of course cannot be performed in ruptured uterus, with a consequent escape of the fœtus from the uterine cavity.—*Editors*,

tient is absolutely in articulo mortis; here we may withhold aid, as nothing can benefit the expiring sufferer.

‘The second plan cannot be implicitly followed; for instances have occurred where the rupture was through the substance of the uterus; and as soon as the child has escaped either entirely or partially into the abdomen, the aperture is so much diminished by the contraction of the uterus as to render it impossible to deliver it through the accidental and natural passage. But, when the rupture happens, about the junction of the uterus with the vagina, which is by far the most frequent, and at the same time is not subject to the diminution of size just spoken of; the second mode is exclusively indicated, unless such deformity of pelvis is connected with it as would render the passage of the child through it impossible.

‘The third plan, I conceive, is only admissible, first, where the rupture has happened to the body of the uterus, and delivery through the vicarious passage rendered impossible by its contraction. Secondly, where there is complicated with this accident, such deformity of the pelvis, as at once to forbid any attempt at delivery through it.’—pp. 79, 80.

We pass unnoticed the next article, as we shall its continuation in a subsequent part of the volume.

Account of the use of the volatile Tincture of Guaiacum, in painful and obstructed menstruation.

The following extracts contain Dr Dewees’ method of using guaiacum in the diseases which are the subjects of this essay.

‘I begin the use of the tincture in the following manner: a tea-spoonful three times a-day, in a glass of Madeira, Sherry, or Lisbon wine, cider or milk; I generally direct it to be taken before each meal, and continue it in this way, unless it happen to offend the stomach when taken before breakfast; in this case, I order it an hour after. I commence its use at any period of the interval of menstruation, but discontinue it during the discharge: but so soon as this is over the tincture is again given. It sometimes requires a perseverance of three months to effect a cure, and during this time, the quantity is to be gradually augmented to three tea-spoonfuls at a dose. Should it prove purgative, a little laudanum must be added to restrain its effects on the bowels; should it not be sufficiently aperient, a little resin of jalap or powdered rhubarb may be used with it; or have recourse to the occasional use of the oleum ricini.

‘There are some women labouring under this complaint, who, during the menstrual period, will require bloodletting; it must therefore be remembered, that the pulse be kept sufficiently down during the exhibition of the tincture. To those who are plethoric, an

abstemious diet is necessary, and the occasional use of the warm bath has been found serviceable.

‘ Flannel next the skin, and a strict attention to keeping the legs and feet warm, are particularly recommended.

‘ During the flow, camphor given in the following manner, rarely fails to give immediate relief:

R Gum. camph. ʒ j.

— arab. ʒ j.

Sacch. alb. q. s.

Aqua cinam. simp. ʒ j. m.

one half to be given as soon as pain comes on, and if not relieved in two hours, the other half is to be given; which for the most part is sufficient. I have in some instances been obliged to give laudanum after the camphor, but not often. Should vomiting attend, camphor and laudanum should be given by enemata, as follows:

R Gum. camph. ʒ ss.

Sp. vin. rect. q. s. f. pulv. add

Tinct. thebiai. ʒ j.

‘ This to be mixed with a gill of thin starch, and given as a clyster; this may be repeated pro re nata.

‘ I will not pretend to account for the operation of the camphor in this disease, but its effects are very remarkable, in not only relieving pain, but diminishing, and in some cases entirely preventing the discharge of the membrane. I was taught the use of this remedy by an old woman who had laboured under this complaint, and who in a fit of desperation, in one of its paroxysms, drank a wine-glass-full of camphorated spirit, which to her great surprise and joy instantly relieved her; since, it has been recommended in the above and more elegant form, by a gentleman in the Medical and Physical journal.

‘ In two cases where I failed with the tincture, hemlock was useful; and in one other, the tincture of cantharides gave effectual relief.

OF ITS USE IN OBSTRUCTED CATAMENIA.

‘ I shall only notice in my account of the use of the tincture of guaiacum in obstructed menses, those cases which I think may strictly be considered as chronic, and idiopathic. It has been usual, more especially of late, to regard obstructions of this kind, as merely symptomatic; an error, I conceive, of some magnitude. When we reflect on the important and independent functions the uterus performs, we shall not hesitate in allowing it diseases peculiar to itself, among which we must regard the amenorrhœa. In this kind only would I recommend the guaiacum as a remedy. In diseases of the system at large, or of any particular viscus, with which the uterus may powerfully sympathise, this medicine is not to be depended on, or at least not until the original disease be removed; thus we find in phthisis pulmonalis, schirrous liver, &c. that the uterus ceases many

times to secrete the menstrual blood; in these instances it would be more than in vain to employ the tincture of guaiacum. But where the interruption to the secretion has had no other remote cause than exposure to cold, just before or after the time for its discharge, or fevers without visceral obstructions, this remedy, I can with safety declare, from an experience of sixteen years, that it never has in a single instance failed me: I look upon it more certain than bark in an intermittent. After the menses have failed two or three periods, they very rarely return spontaneously; if neglected long after this period, they lay the foundation of various unpleasant symptoms, and sometimes of serious ill health. If then a bleeding, a brisk purge, warm teas and warm bath, do not restore them at the first or second accustomed period, we should immediately begin the use of the guaiacum. In some cases it is necessary to prepare the system as it were for its use; that is, with women who are robust and plethoric: for this purpose blood-letting, purging, and a vegetable diet should be premised a few days, or until the system will bear the stimulus of the tincture. When the system is thus fitted, it is to be given as above directed for painful menstruation; and with the same precautions and exceptions. It sometimes relieves very quickly, at others it will require a perseverance of five or six weeks, but it rarely employs as much time as the disease just spoken of.

‘I have known this remedy in two instances restore this discharge, where it had ceased three years, and many where it had failed more than one.

‘As the tincture I prepare is something different from the tincture of the shops, I have subjoined my formula.

R	Pulv. gum, guaiac.	℥ viij.
	Carbon. sod. vel potas.	℥ ij.
	Pulv. piment.	℥ ij.
	Alcohol. dilut.	lb. ij.

Dig.

‘The volatile spirit of sal ammoniac to be added, pro re nata, in the proportion of a drachm to every four ounces of the tincture; or less or more agreeably to the state of the system.’—pp. 107, 110.

The two next practical essays are on inversion of the womb, and puerperal convulsion. These are both of them very useful papers. In the first of these Dr Dewees describes a variety of inversion, which has not he says been spoken of as fatal before.

‘Many cases are upon record of the complete inversion of the uterus and its protrusion from the vulva, most of which, as far as my recollection serves me, proved fatal; but no mention is made of death from its being partially inverted; and where this viscus is still confined within the cavity of the pelvis. Four cases of this kind have fallen under my notice within the last eighteen months.’—p. 136.

From some little obscurity in a part of this quotation, the reader might suppose that these four cases were fatal; but it appears from the cases themselves, that this happened in only one of them.

‘By partial inversion I mean where the fundus of the uterus has passed either through the os externum, or is turned down inside out as far as the neck of this viscus. This takes place, I am disposed to believe, but at the full or very near the full period of gestation, as before this time the uterus is not sufficiently distended to subject it to this accident.’

‘The indications are simple: the reduction of the fundus, when it has not passed too far through the mouth of the uterus; and, when passed too far for restoration, to take off the stricture occasioned by the mouth through which it has passed contracting too forcibly on the body, and thus producing disturbances and consequences similar to those which arise from a portion of gut being strangulated.’—p. 137.

The first indication is to be answered after the usual manner, by a gradual pressure on the fundus of the womb, continued till this part is carried up to its natural situation. It is to be supported there by the hand, until contraction takes place and prevents subsequent inversion.

‘The second indication is to be fulfilled by grasping the tumour firmly, and drawing it towards the os externum pretty forcibly; by this means we make the body of the uterus pass through its mouth, which is the contracting part. This, I believe, will always be easily effected, as the prolapsed part passes from a greater to a lesser bulk, in proportion as we approach the mouth; for the uterus, as soon as emptied, will return more or less to its pear-like shape. It may be proper to observe, if this case be of any standing, and the bladder not empty, the urine should be drawn off by the catheter.’—p. 138.

In the second of Dr D.’s cases this indication was fulfilled. It was probably the successful practice in this case which originally furnished the indication. The inversion it was believed had existed four days, and although afterwards the author was led to think it was but two days, the practice was connected with, or grew out of the original belief. He found the patient ‘almost exhausted; her pulse so frequent as not to be numbered, and so small as scarcely to be perceived; great difficulty of breathing, and became faint on the least motion; insatiable thirst, frequent vomiting; cold extremities, and a continuance of uterine discharge.’ Upon examination the fundus uteri was down at the os externum. The following operation was then performed.

‘We carefully drew her to the side of the bed, and had the knees drawn up and supported. I gently introduced my hand under the tumour, and gradually raised it; this gave me sufficient room to examine the nature and extent of the inversion. The instant I raised the womb there was a large and sudden discharge of urine: this gave still more freedom to an examination that was to terminate in the disappointment of my hope of the reduction of the fundus.

found so much of it had passed through the mouth of the uterus as to render any attempt at reduction futile, and the more especially as the tumour was augmented by its having swelled since its prolapsus. The stricture occasioned by the contracted mouth was readily felt, and was very strict. I was extremely perplexed for the moment how to proceed, or to announce the failure of an attempt that alone at first sight appeared to promise success or even relief, but it fortunately occurred to me, before I withdrew my hand, that I might take off the stricture by inverting the uterus completely. Agreeable to this suggestion, I grasped the tumour firmly, and drew it pretty forcibly towards me, and thus happily succeeded in slipping the remaining portion through the constricting mouth. The woman was almost instantly relieved from much of the anxiety and faintness she had before experienced; but as she was so exhausted by previous suffering and discharges, and as the internal surface of the uterus was now exposed to the influence of the external air, I was prevented from feeling or giving the slightest encouragement of recovery to her friends; but fortunately the event proved how groundless were my fears, for from this day she rapidly recovered, without another alarming or troublesome symptom.

Milk was freely secreted on the fourth day after, and continued freely. Our patient was twenty-three years of age, delicate, but always healthy, but more especially so during her pregnancy.

I visited this patient to-day, November 26, 1808, and found her at the wash-tub. perfectly well; suffers no inconvenience whatever from the uterus; menstruated regularly for three periods; had more or less discharge of mucus tinged with blood for four months; this last four months has had no discharge of any kind; suckles her child, which is remarkably thriving. The uterus is so much contracted as to be no longer within reach of her finger.*—pp. 145, 147.

The practice in this case was successful in rescuing the patient from imminent danger. It left her the subject of inverted uterus for the remainder of life. This last fact makes the question of adopting Dr D's method a very serious one, and in considering this question we are met by others. Is there no chance of reducing the uterus after the stricture has been removed in the manner above proposed, and should not its reduction be attempted either immediately after, or as soon as the patient is enough recruited to endure the fatigue and pain of a trial? A case has been related to us, of inversion of at least two days standing, in which the physician having grasped the uterine tumour in his

* I was this day called to Mrs. P. (June 1, 1810,) on account of indisposition; she gave the following account of her situation: 'She had been pretty regular ever since last report, but for the last few periods it has been more abundant, and is sometimes accompanied by the discharge of coagula; it continues longer than formerly, and when it ceases, it is followed by profuse fluor albus.' I saw Mrs. P. again in April, 1818, and found her enjoying a very fair proportion of health, the catamenial discharges had ceased for the five last years, and has been a widow several years past; and she has never been impregnated since her accident.

hand gradually compressed it, and after a long continued effort succeeded in reducing the organ. This was related by the physician himself who performed the operation. The inversion here was complete, and this may make such a difference between the cases as to render it questionable whether a similar treatment would be applicable to both. There was a period in the above case in which reduction might have been performed. The woman was delivered by a midwife, on Friday. Dr Dewees however, and Dr Altee the consulting physician, were not called to the patient till the Tuesday following. These facts are worthy notice, for should partial inversion occur, and symptoms of strangulation come on, soon after delivery, and an insurmountable obstacle seem to exist to reduction, might not some other means of treatment be adopted, than the method of the author? Would full opiates, warm bathing and blood-letting even, be advisable, in the first instance; followed by attempts at reduction, when the effects were present, of all these means, or of some of them? These inquiries are intended to be merely cautionary. The situation of the author's patient seems to have been truly desperate, and to have fully warranted the bold and novel treatment adopted. We have been induced to make the above remarks, from an apprehension that the success of the method in a single case, might lead to its adoption in cases where other means might produce a more favourable result.

The essay on puerperal convulsions is a very valuable one. It contains an able defence of bloodletting in this disease; a practice which has been so long and so strenuously defended by Professor Hamilton of Edinburgh.

There are eight other papers in this volume, and they fill more than half of it. They contain a great deal of valuable reference, with much speculation, and medical criticism. Some of them are continuations, of preceding papers, while others have not been brought forward before. The length this article has already reached however, obliges us to reserve any further examination of Dr Dewees' work for another number. M.

ARTICLE V.

Medico-Chirurgical Transactions.—Vol. XII.—Part II.

THIS volume commences with an account of two cases of biliary calculi of extraordinary dimensions. By T. Brayne, Esq. The first case occurred in a female 55 years of age. When she was first seen by Mr Brayne, she had a small quick pulse, her tongue was foul, bowels constipated, she was watchful; her urine

was secreted in small quantity and was high coloured, she had lost her appetite, and her mind had become extremely irritable. She was entirely free from any local pain. She had for some time before been subject to periodical pains in the epigastrium, succeeded for the most part by slight jaundice, which however, soon left her in her usual state of health. About a month after her last attack of pain, she is stated to have become the subject of continued fever. Mr B first saw her on the 26th of November 1820, and her symptoms did not alter much until the 29th of October, at which time she was seized suddenly with violent pain in the left iliac region, with much tenderness on pressure in this situation. 'This urgent symptom continued unmitigated for sixteen or eighteen hours, after which she became suddenly easy, and soon passed a natural alvine evacuation, which contained a calculus of extraordinary size. This was followed in a short time by an abatement of the febrile symptoms, but she remained in a state of low muttering melancholy for some months, from which she did at length recover, under the gentle and long continued influence of mercury on the system.'

The calculus passed resembled a pigeon's egg in form, though rather larger and more flattened.

In 1822, this patient was attacked with the symptoms of hydrothorax and died on the 4th of March, about a year and a half after she had passed the calculus.

On inspection of the body the liver was found to differ from a healthy state only in being more solid in its texture. The cystic and hepatic ducts were not enlarged, but the gall bladder was smaller and much thickened, and contained only a little pale unhealthy bile. It had also formed an adhesion of the size of a shilling, to the duodenum, near the pylorus, and in the centre of this adhesion was an opening into the intestine, large enough to admit a crow quill. Serum, as was expected, was also found in the chest. Mr B. infers then that the calculus must have passed into the intestines by this artificial opening.

The second case was that of a woman 65 years of age. Mr B. was called to visit her on the 24th of February 1822, without delay, as she was thought to be dying. From the 19th there had been a total obstruction of her bowels. 'I found her lying on her back, with the knees raised, the abdomen prodigiously inflated, with frequent gripings, the extremities cold and damp, and the pulse scarcely perceptible at the wrist. She was nevertheless, sensible, though her articulation was indistinct, and her countenance did not at the time strike me with the hippocratic expression of a dying person. She vomited incessantly, and I was told had rejected every thing from the stomach since the commencement of her illness on the 19th, when the sickness had suddenly invaded her with-

out any apparent cause. Thus the case seemed almost hopeless.' She was directed to the use of stimulants, and warm external applications to the extremities and abdomen. The employment of purgative medicine was also followed with assiduity, which in a few days produced free discharges from the bowels. In about a fortnight from this time her health had so amended that she was able to leave her bed, when Mr B. discontinued his visits conceiving her recovery to be certain. 'A few days after this period (March 11th,) she brought me the calculus, figure 3, and informed me that it had come from her suddenly while sitting at breakfast that morning, and that for the two preceding days she had experienced, almost constantly, a great degree of tenesmus and straining at stool, as if from the presence of indurated fœces, attended also with a griping pain in the abdomen, and a forcing sensation at the anus. It was now expected that the cause of these complicated ailments being at length obtained, all probability of future mischief was removed. But on the 17th of March the same train of symptoms recurred in a slighter degree, and in a few hours she passed the calculus, figure 4. Since this time the evacuations have been regularly inspected, but nothing more of the kind has been observed, nor has there been any reason to expect it. I have seen her this day (June 4th,) and she tells me that she is moderately well, but complains of a considerable dyspnœa during motion, or the recumbent posture, accompanied also with a troublesome cough. Her legs, she says, are swollen at times towards night, and there seems reason to believe that the thorax is not altogether free in this case from hydropic accumulation.'

The following were the symptoms of this patient previous to her application for medical aid. A dull pain in the epigastrium, with a sense of weight and oppression in that region, commonly occurring about bedtime, and lasting from half an hour to two or three hours. These attacks were not attended with sickness, nor were they followed by any appearance of jaundice. When the paroxysms of pain were severe she perspired profusely, and the erect position seemed to give most relief. She had but little appetite; her tongue was foul, but her bowels were for the most part regular without the aid of medicine. The attacks of pain would often come on for several nights successively.

'The calculus, figure 4, which was first passed, is of a singular form, being somewhat of a flat square shape, with its angles rounded, and the two sides of its greatest surface considerably hollowed out, as if compressed when soft by some convex body. It is curious too that on applying the most flattened extremity of the smaller round calculus, figure 3, to the deepest of these concavities, the correspondence gives the idea of former intimate juxta-position. It (figure 4.) is nearly smooth and of a deep yellow colour over the greatest part of its surface. It is obviously laminated, for in places

the exterior layer is broken off, and displays beneath a dark brown matter, several successive layers of which are seen in the concavities where the attrition has been most considerable. The larger one, figure 4, weighs 176 grains, the smaller, figure 3, 159. Both swim in distilled water.

‘The smaller calculus is of a more regular shape, something similar to half a large pigeon’s egg. It is studded over a large part of the surface with small irregular tubercles of a greenish hue, like fish skin. In other parts, it is of a light ochre colour, and perfectly smooth. The extremity which I have remarked to adapt itself so well to one concavity of the other calculus, has also a laminated texture, and the inferior layers are of the same dark brown colour as the former.’ Mr B. observes that he shall not lose sight of this patient, as he has ‘sometimes imagined that there might be a third stone, which would complete the series of these curious products of morbid action.’

The next article is *On the Influence of Local Irritation, in the production of diseases resembling Cancer and other morbid alterations of structure.* By HENRY EARLE, Esq. F. R. S.

Mr Earle remarks that there are few more trying situations in which a surgeon can be placed, than when under the necessity of deciding on the propriety of subjecting his patient to a painful and perhaps dangerous operation, the result of which must be very doubtful. ‘On the one hand, humanity pleads most powerfully against increasing the sufferings of a fellow creature, without some reasonable prospect of affording lasting benefit; whilst, on the other hand, the cruelty of abandoning him to his fate, without hope or remedy, and thus perhaps sacrificing a valuable life, may be urged with equal if not superior force.’ This anxious alternative, he remarks applies to cases, ‘which, from their progress and character bear a close resemblance to those malignant affections, which experience teaches us are too deeply rooted in the constitution to be eradicated by any local operation.’

Of such cases it is the object of this paper to treat.

Though Mr Earle is, on a general principle, averse to operating in those fungoid and carcinomatous affections in which the constitution has evidently received a taint, yet he observes that we not unfrequently meet with instances of disease, which though at first sight they many exhibit such a malignant aspect, as to deter us from proposing any operation, still, on more minute inquiry we shall frequently find that the diseased action had been primarily excited by some *local* irritation, and maintained afterwards by *local* circumstances. In some of these cases, he observes, there may be in the constitution a previous disposition to disease, but in many he believes it to be affected only by the irritation of the local affection. ‘Having met with seve-

ral instances of this description in which patients have been rescued from the gradual inroads of a lingering disease, and perfectly restored by extirpation of the local malady, I propose in the following pages to adduce some of these cases, and to point out certain circumstances which have not met with the attention they merit, although they will be found materially to influence the characters of disease. From the experience I have already had, I feel convinced that, by early directing our views to counteract the influence of local irritation, we may often succeed in restoring healthy action; whilst, in more advanced stages of disease, we may be induced to resort to operations with far greater confidence of success than the appearance and progress of the complaint would warrant, independently of any such exciting causes.'

Mr Earle first speaks of diseases of the lips. He remarks that any ulcerations about the mouth will be exceedingly difficult of cure on account of the irritation to which they are subjected from the necessary motion of this organ, and that if neglected they will ultimately assume the induration and other characters of carcinoma. When this occurs in advanced life and is extensive, the surgeon is generally led to form an unfavourable prognosis; the constant irritation kept up here from causes operating in this situation, continuing the morbid disposition, and checking the restorative processes of nature. The neighbouring glands soon becoming enlarged, the surgeon becomes confirmed in the belief of the carcinomatous nature of the disease.

'It has fallen to my lot,' observes Mr Earle 'to see several of these diseases about the lips, and from the result in all but one case, I am led to believe that they are not carcinomatous, or dependent on any constitutional disease, but arising from the continual local irritation above alluded to. If taken early, I have no doubt that many such cases may admit of being cured by the rigid discipline, of which I shall hereafter have occasion to speak; commonly, however, they do not fall under the eye of the surgeon until they have made considerable progress, when it is both safer and better to remove the disease, which the yielding nature of the parietes of the mouth will readily admit of to a very considerable extent without any proportionate deformity.'

Mr Earle then goes on to relate an interesting case of the nature described, upon which he operated with complete success. He has also operated on four other cases of less extensive disease of the lower lip, arising from different causes of irritation with perfect success.

In one case, it is remarked, in which the whole of the lower lip was removed, the result was unfortunate, the disease recurring in the sublingual glands, and soon destroying the patient. Mr Earle considers that few cases afford greater promise of success, than those corroding ulcers with scirrhus edges, which

occur about the lip. He observes farther, that 'the operation is so simple, and the wound so constantly unites by the first-intention, that in cases that do not readily yield to local and constitutional treatment, it is far better to resort to it, and often the deformity will be less than when the ulceration heals without any operation.'

Mr Earle next notices the diseases of the integuments of the nose and face.

'The *alæ* of the nose, and lower margin of the nostril are occasionally liable to diseases resembling cancer, which are greatly aggravated by any catarrhal affection. I successfully removed a portion of diseased-skin from the right ala of the nose, in an old lady, who is alive and well at this present time (nine years since the operation.) In this case the arsenical paste had been previously employed, but had failed to remove the disease.'

It is observed that in some instances the habitual use of snuff will produce an irritable and suspicious looking disease extending over the upper lip. The author of this paper once witnessed a corroding ulcer which was believed to be of a cancerous nature, in the situation mentioned, in an elderly gentleman, which was cured by the abandonment of snuff taking, and the employment of the mildest applications. Other portions, also, of the face are the seat of intractable ulcers, which may often be traced to local irritation. Thus ulcerations occur in the neighbourhood of the eyes, from the constant flow of tears, which happens in obstructions of the nasal duct, &c.

Many instances of disease of the lower part of the face are referred to the irritation of shaving; a wound once made from this operation, being liable to be aggravated and to receive fresh injury every time it is repeated; and if to prevent this the beard is suffered to grow, 'the discharge becomes so matted together with the hair, that it is very difficult to keep the wound clean, and the elasticity of the short bristly beard will generally prevent the close application of any remedy.' In such cases it is recommended carefully to remove the hair with a small pair of scissors, similar to those which are used in the division of the cornea, so that the dressings may be applied more accurately to the wounds. But when the disease remains stationary, or is inclined to spread, it is thought better to remove the morbid portion, either with the scalpel, or caustic.

Among the irritating causes which may dispose the integuments of the face to disease, are the greater exposure of this part to all the vicissitudes of climate and weather, and the greater disposition on the part of the patient to pick and irritate these sores, than those occurring in other parts of the body.

‘In all these diseases,’ remarks Mr Earle, ‘occurring in the integuments of the face in persons advanced in years, if the character does not improve under proper treatment, it is advisable to remove the disease, which may be done in a large majority of cases with every prospect of permanent success.’

Diseases of the tongue are next noticed. Many things contribute to maintain morbid action, when once set up in this part. There is continual motion of this organ in eating, drinking and speaking; and it is liable to irritation from contact with the teeth, which are often decayed and irregular. The mouth and teeth, too, often become incrustated with foul matter, the part being so tender that the patient cannot cleanse them sufficiently; from this cause the disease will be much aggravated, and the discharge rendered fetid and irritating.

‘The continued operation of these causes soon induces a disease which puts on all the alarming characters of carcinoma, for the cure of which, extirpation of the diseased portion by the scalpel, ligature, or actual cautery, has been advocated by different authors; and many successful cases are recorded in which these different plans have been adopted. In looking to the history of many of these cases, considerable doubts arise of their probable nature. The period of life at which many of them occurred, and the frequent success which followed the operations, are alone sufficient to create a reasonable scepticism of their being cases of carcinoma. It is not meant here to call in question the propriety of such operations, where the whole of the morbid part can be safely and effectually removed, although it must be acknowledged that such operations are far more formidable than when the lip is the part affected, and are productive of more suffering to the patient.’

Mr Earle goes on to remark, that cases not unfrequently occur, where the disease affects such parts as are beyond the reach of any operation, and observes that it is very fortunate that many of these affections, will yield to proper local and constitutional treatment, even where the disease closely resembles carcinoma. Under the head of local treatment, it is recommended in the first place, to remove as much as possible, all local stimuli, as decayed or projecting teeth; also covering the teeth with wax or soft lint; ‘*the complete privation of the faculty of speech,*’ and the frequent cleansing of the mouth with water, or medicated liquor thrown from an elastic gum bottle. The use of mild and unirritating food is also advised, and in bad cases only fluids are to be employed, which should be thrown into the stomach by means of a tube passed down the œsophagus. When the glands are enlarged, leeches are to be applied under the chin. A solution of nitrate of silver, or very much diluted nitric acid (three or four drops to the ounce) are considered good ap-

plications for the ulcerated surface. A solution of arsenic is also mentioned. It is advised to throw these on the ulcer by means of a syringe. This plan of treatment has succeeded in several instances in Mr Earle's hands. The application of the pulp of carrots is likewise mentioned as at times being of considerable service in cleansing irritable ulcers of the tongue, and inducing in them a more healthy disposition.

This paper is concluded with some interesting remarks on diseases of the prepuce.

There is a peculiar affection of the prepuce occurring in old people, sometimes including the glans penis, which has generally been considered as cancer of the penis. It occurs in persons of elongated foreskins, and it often originates in a want of proper attention to cleanliness in removing the secretion from behind the corona glandis. This secretion irritates and produces excoriation of the prepuce, and gives rise to what at an earlier period of life would be called gonorrhœa præputii. The part swells, the frænum becomes thickened, and the foreskin cannot be withdrawn.

‘Phymosis being thus established, the frequent passage of the urine over the inflamed skin, causes it to ulcerate, and the continual application of so stimulating a fluid, produces much surrounding swelling and induration. Not unfrequently, the natural opening in the prepuce becomes nearly obliterated, and the urine dribbles away through several ulcerated apertures. An intractable disease is thus established, for which, when it has attained this height, the knife is the only remedy.’

In some instances it commences nearer to the extremity of the prepuce, in which cases it is supposed to be owing to a neglect in withdrawing the foreskin in making water. This operation is also performed more frequently in old age, occupies a longer time, and often a portion is left in the urethra, which gradually dribbles away, thus the foreskin is more frequently exposed to the irritation of this fluid.

‘That such a cause is fully sufficient to produce a most serious disease, I am satisfied, from having more than once witnessed the entire subsidence of inflammation and hardness, after the removal of the irritation, by the most simple and obvious plan of treatment.’

When the characters of the complaint have assumed even a very malignant aspect, Mr Earle thinks the operation of removing the whole indurated mass, may be resorted to with confident expectation of success, and observes that he has done it in three instances in persons much advanced in life, with the most happy result.

If taken at an earlier period the disease may be checked by

removing the exciting causes. Cleanliness is of the first importance. The secretion should be frequently washed away from behind the corona glandis by means of an elastic gum syringe, with a blunted pipe, which may also be used to convey any medicated lotions to correct morbid action. Where phymosis is established, it is recommended to introduce an elastic gum catheter, which, if there is no disease in the urethra or prostate gland to prohibit the practice, should be retained in the bladder. This will prevent the irritation produced by the constant flow of urine over the diseased parts, and, generally speaking, the patient will be thus enabled to withdraw the skin, so that the urine can be passed without flowing over the prepuce.

‘The introduction of a small portion of sponge will often assist much in dilating the contracted orifice; but where these means do not succeed, it will be right in some cases, to divide the prepuce, and expose the glans penis. I have known this operation succeed perfectly in a case which had been condemned to amputation. No operation should, however, be attempted, until the soothing plan of treatment has been tried, and the part brought into as quiet a state as possible; nor until the disease in the urethra, if any exist, be remedied as far as may be.’

In the cases described, the removal of the whole penis is generally resorted to, but Mr Earle observes, from examinations he has made of the parts after amputation, that the removal of the diseased integuments would, in the majority of cases, be equally efficacious. He also states many reasons showing that, ‘amputation of the body of the penis, should not, on light grounds, be undertaken; and only in cases where the induration has extended itself to the corpora cavernosa, or glans penis, or where the state of the patient’s constitution renders it advisable.’

Another effect of local irritation described, is the production of new growths, which occurs most commonly from the secreting surfaces in the neighbourhood of the genital organs and anus. ‘The enormous productions of verucæ and condylomata which so frequently occur from neglected discharges from the vagina, may be adduced as instances. These will generally subside by great attention to cleanliness, and arresting the irritating discharge.’ Sometimes an operation becomes necessary. Mr Earle describes a case in which he removed an enormous cauliflower excrescence, which was attached to the whole circumference of the anus.

It is observed that in treating the cases described, we ought not to neglect the state of the constitution, ‘which will always participate in any considerable local malady, and when once

disturbed will react with much deleterious influence on the original affection.' It is thought advisable always to try the soothing plan in these local diseases, since, if it does not effect a cure, it will tend to allay the irritation, which is very desirable, even if an operation must afterwards be performed.

On Chimney Sweeper's Cancer. By H. EARLE, Esq.

Mr Earle first gives an interesting history of this complaint, through which, however, our limits will not admit of our following him. He considers it comparatively of rare occurrence, which he thinks may be explained on two principles.

'In the first place, it very rarely attacks persons under the age of thirty, who form a very small proportion of the number engaged in the business. The greater proportion of the cases which I have seen, have occurred between 30 and 40: I have seen three instances between 20 and 30, and only one at the age of puberty. A solitary instance is recorded by my father where it occurred in an infant under 8, but I have never met with any similar case.'

It is also thought that a constitutional predisposition is required, which renders the individual susceptible of the action of the soot.

'If this was not the case, and if there was any thing of a very acrimonious nature in soot, would it not more frequently affect the children, whose skins are far more delicate, and who are much more exposed to its constant application?'

Mr Earle remarks that so far as his observation goes, no topical applications, or internal medicines, have any influence over the disease. The scalpel is considered as the only resource, and this may be resorted to with the utmost confidence of success, if the whole of the diseased mass can be removed. In two instances it succeeded where the testicle had become affected.

This paper is concluded with the history of two interesting cases of this affection, which go strongly to illustrate the positions advanced.

On the Destruction of the Fœtal Brain. By Mr HAMMOND.

The case related is that of a child born alive after the brain had been destroyed, and in whom the functions of life continued in the usual manner for twelve hours.

'This case,' observes Mr Hammond, 'may perhaps be useful in a practical point of view, as it tends to show that the removal of a part, and the destruction of the whole cerebrum, does not insure death to the fœtus; and in such cases, where the head must be opened, it would be better to divide the medulla oblongata or the spinal chord; for the mother, who is generally prepared for the operation by the assurance that her child is already dead, suffers considerable pain on finding it born with life, but without brains.'

A case of Bronchocele. By HENRY SHUCKBURGH ROOTS, M.D.

This is a case in which Iodine proved successful, after the trial of various other remedies. It was rubbed on the tumour in the form of ointment; and the tincture was also taken internally.

The next paper is, *On the Dilatation of the Male Urethra by inflation, for the extraction of Calculi from the Bladder, as practiced in Egypt, near 250 years ago.* By ROBERT MASTERS KER-
RISON, M. D.

This mode of extracting calculi is described by Prosper Alpinus, in his book *De Medicinâ Ægyptiorum*.

‘Prosper Alpinus left Italy in 1580, as physician to the Venetian consul in Egypt, and lived at Cairo for three years. His book *De Medicinâ Ægyptiorum*, was first published at Venice in 1591. It is in the form of a dialogue between himself and his friend Melchior Guilaudinus.’

The fourteenth chapter of the third book, relates principally to the extraction of a calculus from the male bladder without an incision. Here follows the dialogue on this subject.

Cursory remarks on Small Pox as it occurs subsequent to Vaccination. By GEORGE GREGORY, M.D.

Dr Gregory remarks on the frequency of late of the small pox subsequent to vaccination, and observes that cases of this kind are, beyond all comparison, more frequent than cases of *secondary* small pox. These are rarely seen in the Small-Pox Hospital; whereas cases of small-pox in those who had previously undergone vaccination, at the present time, constitute a considerable proportion of the admissions into that institution.

The first Table at the end of this paper gives the whole number of admissions into the Small-Pox Hospital in ten different years, those being distinguished which occurred after real or presumed vaccination. The proportion of cases of small-pox succeeding vaccination was to the whole number of admissions, in 1810, as 1 in 30; in 1815, as 1 in 17; as 1 in 5 in 1819; as 1 in 4 in 1821; and in the year 1822, as 1 in 3½.

Nearly 100 cases have been witnessed by Dr G. at the Small Pox Hospital during the last three years.

‘I am thoroughly sensible,’ says the author of this paper, ‘of the extreme delicacy of this enquiry. The mere agitation of the question in a society like this may be deprecated by some as altogether unwarranted and uncalled for; and, from the distrust of vaccination which it seems to imply, calculated to occasion much serious evil. Were I not satisfied, that this view of the subject is overstrained, I would not proceed. It is, however, clear to me, that vaccination

is now so well established, that no real danger can arise from examining, even in the strictest manner, every phenomenon connected with it. A large proportion of mothers, in the present day, were themselves vaccinated, and, therefore the popular prejudices may now be considered as in favour of vaccination rather than against it. So far from anticipating evil, I look forward to the public good being benefited by the free discussion of the subject. Many persons have been brooding in secret over the failures of vaccination, and appear to have a fear of expressing their sentiments concerning it, or of meeting the question, in any way, openly. To them the avowed investigation of the subject will, I am persuaded, prove satisfactory. But, besides this, it is only by candid discussion that we shall ever be able to determine that highly important point, how far the failures of vaccination are owing to causes under our control; and how far, therefore, there exists a reasonable probability of obviating them, either wholly or partially, so as to increase the security of the vaccinated.

‘I shall first enquire in what manner, and to what extent, the effects of the variolous poison upon the animal economy are modified by the influence, previously exerted, of the vaccine virus. I shall then offer a few reflections on the causes of the occurrence of small pox after vaccination, and on the sources of difference in the degree of modifying influence which vaccination exerts.’

In most instances the same security is afforded by vaccination, as by undergoing the small pox. The exact proportion, however, cannot be ascertained. Nor can any calculation on this point at the present day be expected to hold good in future; the failures of vaccination being now much more numerous than they were ten years ago, and we do not know that they have yet reached their *maximum*.

In cases where vaccination does not perfectly secure the individual from the future influence of the small pox, it serves to modify certain of its effects. These are next investigated.

1. The cow pock does not seem to shorten or mitigate the eruptive stage of fever. 2. It does not appear to influence the quantity of cutaneous eruption, so much at least as has been generally supposed. 3. Its great power undoubtedly ‘consists in modifying the *progress of inflammation* in the variolous eruption; and here it cannot fail to attract observation, how strikingly opposed to each other, in this respect, are the influences of inoculation and of vaccination.’ The first lessens the quantity of eruption, without altering the progress of inflammation, in any degree, in that which appears. The second, without affecting the quantity of eruption, influences, always, the progress of inflammation, however copious the eruption may be; ‘The same desirable result, the diminution of mortality, is obtained in

either way. By checking the quantity of eruption, or the degree to which inflammation in it extends, the disease is prevented from bringing on those impediments to the functions of respiration and perspiration, which occasion secondary fever, and endanger life.'

'In all, or nearly all cases of natural and inoculated small-pox, the eruption proceeds to ulceration, more or less superficial, according to the violence of the disease; and the ulcers heal by the common process of scabbing and cicatrization. In cases of small pox, however, subsequent to vaccination, the cutaneous inflammation is checked at so early a period, that the fluid in the vesicles seldom reaches the state of pus, the cutis vera is never ulcerated, and consequently the healing process takes place by the conversion of the vesicles into tubercles, and their subsequent *desquamation*. This constitutes a very well-marked and important character of the vaccine or modified small-pox. A similar modification of the variolous inflammation of the fauces and trachea undoubtedly takes place; but the exact nature of the difference it is, in this case, more difficult to define.'

4. Though vaccination modifies the course of the cutaneous inflammation, in a large proportion of cases, still it does not always affect the progress of the disease, when it attacks other parts, especially the brain. This is the way in which small pox, after vaccination, sometimes proves fatal. Two cases follow illustrating this position. Case 1st. *Variola succeeding vaccination, modified in as far as regards the eruption, but proving fatal by affection of the brain.* Case 2d. *Variola succeeding vaccination, modified in as far as regards the eruption, but proving fatal by an obscure affection of the brain.*

Dr Gregory next proceeds to notice the degree to which previous vaccination modifies the effects of the variolous poison. This varies exceedingly. 'Sometimes the disease, after vaccination, is so *highly* modified, that physicians can scarcely think themselves warranted in calling the complaint small-pox.' Whereas, in some few cases, the modification is so trifling, as scarcely to be perceptible. Between these two extremes every possible gradation has been noticed. The instances, however, 'of *complete failure*, from well ascertained vaccination, are very few in number, and will hardly bear a comparison with those numerous instances, in which the disease was so modified by it, as to preclude *all* anxiety for the patient's safety.'

The following observations are made with a view to determine how far there is any probability of obviating in future the occurrence of small-pox after vaccination.

1st. Dr Gregory adduces proof to shew that there is a peculiar susceptibility in certain families to the variolous poison.

2d. The great proportion of cases of small-pox subsequent

to vaccination, which have occurred at the small-pox hospital, have happened in persons between the ages of 15 and 21. The average age of the whole is shown to be 19. It is believed 'that there is something in the habit of body peculiar to that age, which renders the system more than usually disposed to suffer from the influence of the variolous poison.' This belief is supported by the fact that many of these persons alluded to, had been thoroughly exposed to the contagion at former periods of their lives. This circumstance, it is observed, has of late become generally known, and has revived the opinion that the influence of vaccination on the system wears itself out in the progress of time, and therefore requires to be renewed. 'The notion has latterly been acted upon to a great extent; but I have not been able to ascertain, that the results of *revaccination* correspond with the theory which leads to it.'

3d. Much importance is attached to the appearance of the vaccine cicatrix. 'When the scar on the arm is perfect—that is, distinct, circular, radiated, and cellulated; but, above all, when it is small, so that it may be covered by a pea;—the secondary affection (if from peculiarity of habit, or any other less ascertained cause, it does occur,) will be slight, and hardly deserve the name of a *disease*.

'On the other hand, whenever the scar is large and bears the marks of having been formed by high local inflammation, and wants the other distinctive characters just enumerated, the chance of small-pox occurring in after-life will be greater, and *ceteris paribus*, there will be a stronger likelihood of its proving severe.

'This principle receives a striking confirmation from what takes place in *revaccination*. Where the cicatrix is perfect, it is impossible, or nearly so, to reproduce the vaccine disease in any thing like its genuine form. In proportion to the imperfection of the cicatrix, will be the degree of approximation of the *second* to the *primary* vaccination.

'These considerations tend to establish, as a *pathological principle*, that the occurrence of small-pox, subsequent to vaccination, is dependent upon the *intensity of the vaccine influence*, as *primarily exerted*; and they lead to the belief, that the appearance of the cicatrix may be taken as a *measure of that intensity*.'

4th. It is remarked that a very large proportion of those affected with small-pox, subsequent to vaccination, who were admitted into the small-pox hospital during the three last years, were vaccinated in the country. There are many accidental circumstances to which this may be attributed, yet making proper allowance for these, still the disproportion between those who take small-pox, after vaccination in the country, and after vaccination in some

large town remains very great. The fact is accounted for by supposing that practitioners in the country have frequently vaccinated with lymph which is *not perfect* in its qualities. 'I am inclined to entertain this opinion, first, from having been able to trace several cases of small-pox after vaccination to particular villages, in countries bordering on the metropolis; and secondly, from having observed, that a great proportion of those admitted into the small-pox hospital after country vaccination, had *large irregular*, and therefore *imperfect* cicatrices.'

The ideas advanced in this paper, if correct, lead us to regard vaccination not as a trifling operation, and capable of being performed by every clown or mountebank, but as one of the highest importance. In the words of the author of this article, they should 'impress upon all the indispensable necessity of a close attention to every part of that process, which, though of trifling import at the moment, is yet of incalculable consequence to individuals in every future period of their lives.'

On the comparative virtues of different kinds of Sarsaparilla.
By Mr JOHN POPE.

From a critical examination of various kinds of the sarsaparilla, it is proved that the whole medical efficacy of the plant resides in the bark, and is owing to a pure extractive matter, which is found in greatest abundance in the best of each kind. That the root deprived of its bark can be made to yield but a very small proportion of extract. That the cortical part gives out nearly all its virtues by cold infusion in distilled water—'very readily to lime water, or water slightly impregnated with caustic alkali—and that *boiling* distilled water extracts all its virtues.'—That the red lately brought from Jamaica, yields much the largest proportion of extractive matter.—That an elegant extract may be obtained, by submitting the root cut transversely, to the action of steam or distilled water, a little below boiling heat, not liable to decomposition, and which will contain all the virtues of the plant.

Case of stricture of the Urethra, treated by incision. By JAMES M. ARNOTT, Esq.

The advantages of treating obstinate cases of stricture by incision are very satisfactorily shewn in this paper. In conclusion Mr Arnott remarks, 'It is unnecessary to point out the superiority of the treatment by incision over what has been called forcing the stricture, which, although reprobated in principle, seems still occasionally adopted in practice: for if an instrument is to be urged into the bladder, it is very evident that it is much better to do it by the former method, which is simple, easy and cer-

tain, than by the latter, where nothing is certain, but that great violence must be used.'

On the occurrence in Persia of the Epidemic Cholera of India. By JOHN CORMICK, Esq.

The general symptoms of this complaint are a vomiting and purging of immense quantities of 'a whitish water, without taste or smell, and resembling that in which rice had been boiled. The body becomes cold, especially the hands and feet, which assume a dark blue colour. The pulse fail; spasms come on in the muscles; the eyes are sunk, there is great thirst, restlessness, anxiety and oppression of the præcordia. The secretion of bile, urine and saliva ceases; the palms of the hands and soles of the feet became corrugated, as though they had been immersed in warm water. The blood recedes from the surface and becomes accumulated in the internal organs, hence the heart palpitates, and seems to labour hard to send forward the mass of blood pressing upon it. The eyes however, continue of a bright red colour, and covered with arterial blood.' In many cases, the attack was so violent that the sufferers sunk, and with a few efforts to vomit, expired.

Mr Cormick in the treatment of this complaint, allowed the vomiting to go on for a little time, while he perceived that the discharges were copious, and unattended by severe straining. He then endeavoured to check the vomiting by means of calomel and opium, or by repeated injections of laudanum with warm water. His next object was to evacuate the bowels freely, and produce some action on the liver. For this purpose he employed calomel and colocynth, and when they failed to produce copious discharges, he gave an ounce of castor oil, with the same quantity of peppermint water every hour till this object was obtained.

Bleeding was found useful in the secondary stages of the disorder, in relieving the head, and hepatic system. Topical bleeding was always employed with much advantage. The warm bath was found serviceable when used after the violence of the attack had subsided.

It is remarked that the idea of this epidemic being contagious, is now very generally abandoned.

An account of a rare case of Complicated Labour, from locking of the heads of twins: to which are subjoined notices of two recorded cases of the same description; with a suggestion of a method for effecting delivery under similar circumstances. By JOHN ALLAN, Esq.

The face of one of these children was towards the sacrum, and its occiput was closely applied to the throat of the other

child. The back of the neck of the latter was closely applied to the symphysis pubis of the mother, and its face to the back of the neck of the former, whose body remained within the uterus. Mr Allan resolved in this case upon a mode of delivery which he afterwards describes. The children were so small that it was unnecessary in this case, both heads being expelled from the pelvis by one powerful parturient effort.

The mode resolved upon was to detach the body that had passed the os externum from the head, then pushing up the detached head, and extracting with the forceps, the head occupying the hollow of the sacrum, allowing the natural efforts were inadequate to effect delivery. The separated head might then be extracted in the way thought proper. The lives of the mother and one of the children would thus probably be saved.

A case of Ascites connected with Utero-Gestation, successfully treated by operation. By GEORGE LANGSTAFF, Esq.

It was decided in this case, the symptoms of ascites being very evident, to bring on premature labour, for which purpose the liquor amnii was let off. But on the following day the symptoms occasioned by ascites were so threatening that an operation was determined upon. About 25 pints of fluid were drawn off. In a few days after uterine pains commenced, and in about four hours the woman was delivered of a dead child. At the end of a few weeks she was so far recovered as to be thought out of danger.

Further account of the extraction of Calculi from the bladder, without the use of any cutting instrument. By SIR ASTLEY COOPER, Bart., F. R. S.

In this article Sir Astley gives three cases in which stones were extracted from the bladder by means of the forceps of Mr Weiss which were noticed in a former volume of these Transactions. These cases are interesting, and lead us to hope that the necessity for the operation of lithotomy will be, in some measure at least, diminished by this new method of extracting calculi.

Some observations relating to the powers of circulation and the state of the vessels in an Inflamed part. By A. P. W. PHILLIP, M.D. &c.

Dr Phillip believes the circulation in the capillaries and veins to be carried on by the power of these vessels themselves; and that the power of the arteries aids the impulse given to the blood by the heart, in carrying on the circulation in them. He considers it more consistent with every thing we know of the living economy, to suppose that the vessels assist in conducting the circulation, than that their contents should be driven through them, as through inanimate tubes.

All the latter part of this paper is taken up in observations and experiments tending to support the well known theory that inflammation originates in a debility in the actions of the capillary vessels which conduct this process.

An essay on the proximate cause of Phlegmasia Dolens. By DAVID D. DAVIS, M.D.

Dr Davis in the first place states the principal theories relating to this disease, and then advances one of his own. He supposes its proximate cause to consist in 'a violent inflammation of one or more of the principal veins within and in the immediate neighbourhood of the pelvis, producing an increased thickness of their coats, the formation of false membranes on their internal surface, a gradual coagulation of their contents, and occasionally a destructive suppuration of their whole texture; in consequence of which, the diameters of the cavities of these important vessels become so greatly diminished, sometimes so totally obstructed as to be rendered mechanically incompetent to carry forward into their corresponding trunks the venous blood brought to them by their inferior contributory branches.' Several cases with their dissections are then related, all going to support this theory.

Dr Davis thinks general bleeding objectionable in phlegmasia dolens. He places his principal reliance for a cure, on local bleeding, blistering, and on keeping the limb cool, by means of evaporating lotions, and free and constant exposure to the action of the atmosphere.

On the effects of stricture of the Urethra, particularly of the sacculated state of the bladder, with an inquiry into a mode of treatment to avert this latter consequence of stricture, which is often fatal. By JOHN SHAW, Esq.

Mr Shaw confines his observations in this paper to four distinct pathological facts.

He observes 1st, that in more than a hundred dissections made of diseases of the urethra, he has not seen a stricture of the canal posterior to the ligament of the bulb; nor found one example of stricture beyond this part among those preserved in the college museum.

2d. 'In almost every instance where a narrow stricture has existed for some time, in any part of the urethra anterior to the ligament of the bulb, I have found the membranous and prostatic portions dilated to three or four times their natural size.

3d. 'The ducts of the prostate, which are naturally very small, are always more or less enlarged when there has been a stricture, or a long continued irritation of the canal.

4th. 'When such a stricture as causes occasional retention of urine has existed for some years, the bladder is found to be not only thickened but often at the same time sacculated.'

Mr Shaw next makes some remarks upon certain practical questions connected with the above observations; which are both interesting and important, though we are unable to follow him through them. He then goes on to offer some general remarks on the sacculated state of the bladder, from which however, our limits will barely admit of our making the following citation.

‘All who are familiar with the appearances of stricture upon dissection will acknowledge, that a sacculated state of the bladder, is a very common occurrence. I have so frequently found it, that I have been led to the following conclusion (and which has not been hastily formed, as the preparations on the table will testify:)—if a very narrow stricture has existed for a certain time, and the patient has suffered occasional attacks of retention of urine, a sac has probably formed.

‘This observation I confidently make, though at the same time I acknowledge, that I cannot with accuracy point out any particular symptoms, by which we may predict the formation of a sac; I will, however, hazard the opinion that, when in severe cases of stricture, there is a peculiar irritation about the back part of the bladder and between it and the rectum, especially if this occurs after voiding urine, we may suspect that a sac has formed.’

Inquiries respecting the anatomy of the eye. By ARTHUR JACOB, M.D.

In this paper some of those points relating to the anatomy of the eye are discussed, concerning which there have been a variety of opinions entertained. An inquiry is also made, ‘into the structure and application of those parts which, from their beauty, or peculiarity of appearance, have attracted particular attention.’ This is a very valuable paper, and affords many new and interesting views on the anatomy of the eye.

On Injuries of the pelvis. By JOSEPH SWAN, Esq.

In this paper are related four interesting cases of injury of this nature. Two of the patients died and two recovered. The dissection of those who died is also given.

Account of a case of Axillary Aneurism; in which the operation of tying the subclavian artery was successfully performed. By HARRY LEAKE GIBBS, M.D.

Rupture of the Uterus, and subsequent recovery of the patient. By JAMES POWELL, Esq.

This patient was 24 years of age, had considerable deformity of the bones of the limbs, and was of low stature. It was a first pregnancy, and she had advanced to her full period. Severe bearing down pains had come on, which suddenly and totally ceasing, were succeeded by an excruciating pain of a different kind. There was also great anxiety of countenance,

and other indications of extreme distress. On examination, the head, which before presented, and all other parts of the child, were found to have receded entirely beyond reach. The uterus was discovered to be ruptured along the whole course of its neck, and its body was much contracted. The child was turned and delivered. The operation of craniotomy was found necessary, the brim of the pelvis not admitting the passage of the head. The placenta came away without any difficulty. After delivery the patient became so much exhausted that undiluted brandy was administered 'to keep her in actual existence.' There was no hemorrhage after delivery, nor did any portion of intestine descend through the rupture. Immediately after delivery an anodyne was administered and another at bed-time. She passed a tolerably tranquil night, though she did not sleep any, and on the following morning was in some respects better. The pulse were 160. The breathing was laborious and oppressed, the abdomen tense and tender to the touch, and the countenance still anxious. The uterine discharge was sufficient in quantity, but of a dark grumous character. Leeches and a blister were applied to the abdomen, and the bowels were opened by an enema. In the evening opium was administered. The symptoms continued nearly in the same state for several days.

'After an interval of about eight days, pieces of organised structure, sloughy in their appearance, and very offensive from their putridity, escaped from the vagina. After this the uterine discharge assumed the character of laudable and healthy purulent matter. This new form of disease continued for many days, but without being accompanied with any decided remission of the alarming symptoms; the excessive frequency of the pulse, the laborious respiration, the soreness of the abdomen, and the cough remaining unabated.' The patient now, however, began to have a return of appetite; the purulent discharge also ceased, and a healthy evacuation of the lochia followed. Her situation, however, still remained critical, as the difficulty of breathing continued, accompanied by incessant and violent coughing, and also great pain of the hypogastrium upon attempting to change her position. 'In the midst of these unpromising circumstances, a large quantity of purulent matter was thrown up from the chest, in the midst of a fit of coughing, which had the effect of greatly relieving her most distressing symptoms. She continued to expectorate purulent matter for several days afterwards.'

During the purulent expectoration she became so much exhausted that mild tonics, wine, and a generous diet became necessary for her. Under this course her health gradually improved, so that in a short time she was discharged, quite well, without pain or cough, or any other complaint.

Illustrations of the Medical properties of Quinina. By JOHN ELLIOTSON, M.D.

The Quinina, a substance discovered in cinchona, seems to have been quite extensively employed in France. It has been administered there with advantage in scrofula, intermittent fevers, some nervous affections, and in one case of typhus.

Dr Elliotson used it principally in intermittent fever, and in all the cases he relates it proved eminently successful. He gave the simple Quinina, and the sulphate with equal advantage.

The sulphate in a dose of ten grains was found to disagree with the stomach; but it is remarked that such quantities as can disagree are not required. Five grains of the sulphate every six hours is the largest dose ever necessary, and cases of intermittent fever have yielded to three, two, and even one grain given every six hours. Some cases of intermittents have been cured by this substance, which resisted the bark, and in one case related, it succeeded after the failure of both the bark and arsenic.

Case of preternatural growth in the lining membrane covering the trunks of the vessels, proceeding from the arch of the aorta. By JOHN YELLOLY, M.D.

The subject of this case dropped down suddenly while at work, and though his neighbours, by whom he was seen to fall, went immediately to his assistance, no signs of life were exhibited. He was 56 years of age, robust; temperate, and was represented to have always enjoyed good health.

On examination, the body presented the following appearances.—Some of the arterial trunks were found increased in size, and their inner surface partially ossified. The heart was larger than usual, and both its sides, but especially the left, firm and thick. All the cavities were filled with blood, partially coagulated. A small portion of fluid was discovered between the pia mater and arachnoid coat of the brain. The following however were the appearances most worthy of note.—‘The trunk of the arteria innominata, and the trunks of the left carotid, and of the left subclavian arteries, were all of them in a considerable degree plugged up with a growth from the lining membrane of the artery, having the same general nature and appearance as the lining itself; and without any ossific deposition.

‘In the arteria innominata, this preternatural growth extended, irregularly, about an inch up the vessel, the calibre of which was reduced by it, to less than one third of its usual dimension. In the left carotid, it was confined nearly to the opening of the trunk into the aorta; but the orifice was diminished to such an extent, as to admit not more than the passage of a common-size, probe.

‘In the left subclavian, it extended about half an inch up the vessel, the cavity of which it had diminished to the extent of a small lit.’

It was discovered on particular inquiry that this man had experienced, during the last two years, two or three attacks of sudden faintness, but from which he soon recovered.

Dr Yelloly in conclusion of this paper observes.—‘I have not met with any record of a case similar to this; but the elevation into protuberances, of the inner membrane of arteries, in other situations, is mentioned by pathologists.’ He refers to Morgagni and Baillie’s series of Engravings to illustrate the morbid Anatomy.

This volume is concluded with an *Abstract of the History of a case of Strangulated Exomphalos, successfully operated on, fifty hours after parturition.* By Mr GORE, Surgeon.

This patient after the operation, was much troubled with constipation, and a portion of the omentum became sloughy and was cut away. In about six weeks however from the time the operation was performed she had completely recovered.

SELECTIONS FROM FOREIGN REVIEWS AND MISCELLANEOUS PAPERS.

1. *Recherches Physiques, &c.* Researches on the Properties and Functions of the Nervous System in Vertebrated Animals. By M. FLOURENS. *Archives Générales de Médecine, Juillet 1823.*
2. *Rapport fait à l'Académie, &c.* Report delivered to the Academy of Sciences at Paris, on the Experiments of M. Flourens. By Baron CUVIER, and Others of its Members. *Journal de Physiologie, Octobre 1823.*
3. *Expériences, &c.* Experiments on the Functions of the Nervous System. By Professor ROLANDO of Turin. *Ibid. Avril 1823.*
4. *Analyse des Expériences, &c.* Analysis of Experiments on the Nervous System of Man and Animals, published in Italy in 1805, and repeated in France in 1822. By M. COSTER. *Archives Générales de Médecine, Mars 1823.*
5. *Recherches Expérimentales, &c.* Experimental Researches on the Nervous System. By M. FODERA. *Journal de Physiologie, Juillet 1823.*

6. *Expériences sur les Fonctions, &c.* Experiments on the Functions of the Roots of the Spinal Nerves, and on the Seat of Motion and sensation in the Spinal Cord. By M. MAGENDIE. *Ibid.* Tom. II. & III., *passim*. 1822-3.

NO subject has excited deeper and more universal interest among the present physiologists of France, than the Properties and Functions of the Nervous System.

* * * About the beginning of 1822, M. Flourens, a young French physician, laid before the Parisian Academy the first fruits of his physiological labours, being an Inquiry into the Properties and Functions of the Nervous System. In this work he undertook to prove, that the nerves, spinal cord, medulla oblongata, and corpora quadrigemina, are alone the seat of those impressions which give rise to muscular contractions; that the spinal column combines or generalizes these contractions, so as to produce motion of the joints; that the cerebellum regulates the motions of the joints, so as to produce the actions of running, walking, standing, flying, and so on; and that the cerebral lobes are the seat of sensation and volition. His doctrines soon became the object of much interest in the medical coteries of Paris, partly on account of their intrinsic importance, and partly because it was discovered that some of them had been advanced thirteen years before, by an Italian of the name of Rolando, then professor of medicine at Sassari in Sardinia. The obscurity of Rolando's situation had kept his researches entirely out of the view of the French school, till the publication of Flourens' discoveries. They were then displayed with much ostentation by a Dr Coster, one of Rolando's former pupils; and of course the young Frenchman was at once accused of plagiarism. The charge of dishonesty, however, appears to be wholly without foundation; and of this the memoirs of the two rivals afford internal evidence. For, although many of their experiments closely resemble each other, the conclusions which Flourens has drawn from them are widely different from those of Rolando. In fact, Flourens might have quoted all Rolando's treatise, without materially diminishing the value of his own discoveries; and in such circumstances, it does not appear likely that he would venture on the commission of the crime of which he has been accused.

* * * Our observations, as justice demands, will be arranged according to the order pursued by M. Flourens.

M. Flourens very properly sets out with an attempt to reform the present nomenclature of the nervous properties and func-

tions. But, unfortunately, he concludes by leaving it involved in greater confusion than ever.

* * * In the remarks which follow we shall venture to substitute the term *impressibility* for that of irritability chosen by Flourens; by no means presuming that it is the best which can be found, but trusting that it cannot lead to any mistake, either by implying a theory, or by indicating any other nervous property.

* * * M. Flourens first shows, by the familiar experiment of tying two ligatures on a nerve, and pricking it above, below, and between them, that the nerves are neither contractile nor sensible, but that they are essentially impressible (irritable). He next shows, by dividing the spinal cord in two places, and pricking it above, below, and between them, that this part also of the nervous system is impressible, but can neither contract nor feel. From the other results of this experiment, results which are so familiar that we need not enumerate them, he also concludes, that 'the spinal cord is the organ by which is effected the dispersion or generalization of impressions (irritations).' This language is mystical. The Commission of the Academy seem to think that he holds the spine to be the medium, through which sympathies are established; and very properly deny that his experiments can fairly lead to such an inference. In another part of the Memoir, however, he states that the spine is the organ by which the muscular contractions are combined so as to produce motion of joints or limbs; and he proves this by referring to the general motion excited in the hind-legs by irritating them, after the spinal cord has been divided in the middle of the back.

The next object of his experiments is to discover in what parts of the nervous system the property of Impressibility resides. And he proves that it belongs only to the nerves, spinal cord, medulla oblongata, and corpora quadrigemina; and that the lobes of the brain, even the corpora striata and optic thalami, and likewise the whole mass of the cerebellum, do not possess it.

* * * M. Flourens then turns his inquiries to the seat of Sensation and Volition, that is, the part of the nervous system at which impressions proceeding from its extremities must arrive, before they can produce Perception and subsequent efforts of the Will. The faculties of Perception and Volition do not reside in any part of the nervous system, which we have found to be endowed with Impressibility. For, if a section be made at any point betwixt the superior corpora quadrigemina and the extremities of the nerves, the animal feels no impression made below the section. These faculties must therefore reside somewhere higher up in the encephalon. And M. Flourens thinks he has established by experiment that they are situated in the cerebral

lobes. The position seems to be satisfactorily established, so far as concerns the senses of sight and hearing; but his experiments do not by any means warrant him in extending it, as he has done, to the other senses, and to volition.

When the cerebral lobes are removed in any animal, it evidently loses at once the senses of sight and hearing. If, on the other hand, the cerebellum be removed, the brain proper remaining entire, these senses are unimpaired. If only one hemisphere of the brain proper be cut out, the sight of the opposite side only is lost. It is an interesting fact, however, and worthy of special notice, as illustrating what has been said concerning the seat of Impressibility, that, although the sight is lost, the contractility of the iris continues unaffected. When the cerebral lobes are pricked even so deep as the optic thalami, the iris remains unmoved; if they are cut out, it is not paralyzed. But the moment the superior corpora quadrigemina are touched, it contracts convulsively; and whenever they are dug out, care being taken to leave no portion of them adhering to the optic nerves, it immediately dilates, and entirely loses its contractility. These facts, conformable with the assigned limits of nervous Impressibility, show the incorrectness of the generally received opinion, that the integrity of the optic thalami is essential to the integrity of the motions of the iris. This opinion had been derived from the well-known effects of pressure on the optic thalami and their vicinity. But it is easy to see that pressure can hardly be produced there, without also indirectly compressing the optic nerves. The observation of Flourens, that the sensation of visible objects and of sound resides in the lobes of the brain proper, is entirely new. It is included, indeed, in a more general proposition to be stated immediately, to which Rolando had been led by his experiments. But the Italian nowhere lays it down explicitly; and besides we shall find, that his experiments are liable to a serious fallacy, in consequence of which he cannot be held to have established even the general proposition alluded to. Moreover, he does not even hint that the optic thalami are not necessary to the contractility of the iris. On the contrary, his section was always made before the thalami; and he expressly mentions that, when these bodies were cut into, the pupils dilated, and ceased to be contractile (*Archives*, I. 368.) As to the correctness of M. Flourens' facts and inferences, we can only say, that his experiments were repeated before a Commission of the Academy of Sciences, consisting of Cuvier, Portal, Berthollet, Pinel, and Duméril, who agree that he had made his proposition good.

Besides the effects just mentioned, Flourens observed, that

the loss of the cerebral lobes was followed by a kind of lethargy or deep sleep; from the peculiar symptoms of which he draws the conclusion, that this part of the nervous system is the seat, not only of all other sensations, but likewise of Volition. As that conclusion, however, does not seem to be so legitimate, it is necessary to state, more in detail, the principal experiments from which it has been drawn. When the cerebral lobes were removed in a pigeon, without injuring the corpora quadrigemina or cerebellum, the animal was immediately seized with more or less feebleness; which effect, however, gradually diminished, till it soon became evident that motion was nowhere materially weakened. But the senses of seeing and hearing, as formerly noticed, were extinguished, and a state of stupor was induced, resembling profound sleep. The animal remained calm, and as if abstracted; did not move of its own accord; and, when it encountered an obstacle, struck it again and again, without ever trying to avoid it. Yet it preserved its equilibrium, struggled if held, resisted every effort made to open its beak, swallowed water dropped into its beak, walked about when pushed, and flew when thrown into the air; nay, the slightest irritation evidently teased it (*Archives*, II. 352). Analogous results were obtained with frogs. Now, these phenomena by no means justify the inference, that all sensations, as well as volition, are lost. They are impaired; but the symptoms unequivocally show, that the animal could both feel and will. Yet sensation and volition certainly are impaired; or perhaps we should rather say, that the memory seems to be materially injured, so that impressions made on the organs of sense excite but obscure or transient perceptions, and consequently but feeble efforts of volition.

Such is nearly the amendment which the Commission of the Academy advise M. Flourens to make on the nature and terms of his inferences. They remark, that he has amply established his doctrine with regard to the seat of the sensation of sight and sound; but that it was impossible he could put it to the test as regarded the senses of taste and smelling; and that it is not at all extensible to the sense of touch throughout its numerous modifications. 'We should be content with holding,' say they, 'that the cerebral lobes are the sole receptacle, where impressions on the senses of sight and hearing become perceptible to the animal. If we were to add any thing to this concession, we should say, that they are also the part where all sensations whatever take a distinct form, and leave durable traces and recollections; in a word, that they are the seat of memory, by which property they supply the animal with the materials of judgment.' (*Journ. de Phys.* II. 381.)

The experiments of Rolando, conducted nearly in the same manner with those of Flourens, had also led him to form the same opinions as to the functions of the cerebral lobes ; namely, that they are the seat of sensation and volition.

* * * We come now to mention the most interesting and extraordinary of all M. Flourens' discoveries, namely, that the cerebellum is the Regulator of Motion ; or, in other words, the organ by which the muscular contractions, previously combined by means of the spine to constitute movements of the joints, are further associated and regulated, so as to produce the actions of standing, walking, running, leaping, flying, swimming. His experiments on this head are very pointed. When a slice is cut away from the cerebellum of an animal, the injury is at once followed by great weakness. This differs in degree with a variety of circumstances, being greatest when the quantity removed is greatest, and always more striking in the mammalia than in birds or reptiles. The same effect we have already seen to follow the removal of the lobes of the brain. It evidently depends on the sympathetic connexion of the several parts of the nervous system, in consequence of which no part can be injured without a shock being imparted to the rest. But in a short while the animal regains its strength ; and then the senses are found to be entire : It shrinks from the slightest threat or violence offered to it, and the motions of the limbs are generally vigorous and frequent ; but its movements are exceedingly irregular, and, as it were, embarrass each other ; and though volition is evidently exerted, no corresponding act succeeds ; it strives to escape when irritated, yet it can neither fly, nor run, nor leap, nor walk ; nay, when the whole cerebellum is lost, it cannot even stand. If that organ be removed gradually in successive thin slices, the progressive circumscription of the locomotive actions is very remarkable. On removing only the first layers of the cerebellum in the pigeon, the sole effect produced is some weakness and a kind of hesitation in his gait. When the sections have reached the middle layers, it staggers much, and assists itself in walking with its wings ; yet it sees and hears perfectly, seems cheerful, and does not express pain. The sections being continued farther, it is no longer able even to preserve its equilibrium without the assistance of its wings and tail ; its attempts to fly or walk resemble the fruitless efforts of a nestling, and the slightest touch tumbles it over. At last, when the whole cerebellum is removed, it cannot support itself even with the aid of its wings and tail ; it makes violent efforts to rise, but only rolls up and down ; then fatigued with struggling, it remains for a few seconds at rest on its back or belly, and then again commences

its vain struggles to rise or walk. Yet all the while its sight and hearing are perfect; the slightest noise, threat, or other stimulus at once renews its contortions. In these struggles and contortions there is not the slightest appearance of convulsions. The same effects were observed by Flourens in the guinea-pig. When the last layers of the cerebellum were removed, it lost the power of walking or standing, lay down on its belly, moved its legs as if running, and made vain efforts to rise. The inference he has drawn, therefore, from the foregoing facts is, that the cerebellum is the organ by which all the locomotive actions are regulated.

This discovery is entirely original. Rolando, in particular, for whom the merit of it has been claimed by his pupil Coster, had not made the most distant approach to it. On the contrary, he maintains that the cerebellum is the organ on which motion depends altogether; and at first sight, his experiments are conclusive enough to this effect. For he found that, when he removed the half of the right lobe of the cerebellum in a cock, it was immediately struck with palsy of the same side, so complete that it could not execute a single movement with the right wing or leg; and when both cerebellar lobes were removed in a kid, it lost the power of motion every where. Three circumstances, however, render these experiments inconclusive. First, he does not seem to have made allowance for the temporary debility which immediately follows the injury. Secondly, his own expressions make it evident, that he could not prevent the effusion and accumulation of blood in the cavity of the skull; so that the effects of the loss of the cerebellum were complicated with those of pressure on the medulla oblongata. And, lastly, he may with justice be suspected of inaccurate observation; for he remarks, that the kid lived twenty-four hours without the cerebellum, in a state of complete paralysis of both sides; a state, in which it is not easy to conceive, how the respiration could be carried on so long. The doctrine laid down by Flourens has moreover been sanctioned by the Commission of Inquiry appointed by the Academy of Sciences. It has also been more or less confirmed both by Magendie and by Fodéra. The former, after noticing the extreme difficulty of making a conclusive experiment on the cerebellum, remarks, that all he had been able to make out was, that every severe injury of it took away the power of advancing, and excited a constant tendency to walk, run, or swim backwards (*Journ. de Physiol.* III. 157.) Fodéra also found, that animals thus mutilated sometimes showed the same tendency to retreat; but that more commonly they fell down, agitating their limbs and unable to rise, and occasionally staggered, jumped, and

tumbled in a strange irregular manner (*Ibid.* 195.) These results are so similar to the phenomena witnessed by Flourens, that his facts may be admitted as genuine; and in that case we cannot help allowing, that his inference as to this function of the cerebellum is legitimate.

Thus, then, the property of nervous Impressibility is limited to the corpora quadrigemina, medulla oblongata, spinal cord and nerves; the integrity of the optic thalami is not essential to the Contractility of the iris; the sensations of sight and sound reside in the cerebral lobes, and there also all other sensations acquire distinctness and durability; the spinal cord combines the muscular contractions so as to produce motion in the joints; and the cerebellum regulates these movements, and unites them so as to constitute the actions of standing and locomotion;—such are the discoveries of Flourens. On a subject of so much nicety and intricacy, the medical world will naturally receive, not without much wariness and hesitation, doctrines so precise, so important, and so unexpected. We have endeavoured in the foregoing remarks to appreciate their value impartially, so far as their novelty will permit. We shall not now attempt to offer any additional arguments for or against their validity; being satisfied that, as they have been deduced by a system of experimental reasoning, nothing but new experiment can be brought forward on either side with effect. Meanwhile, however, it may be right to notice shortly the arguments which have been levelled against them by a man, who, since his own interest is deeply staked in their destruction, may be justly regarded as their most mortal antagonist. M. Gall, incensed to find his organs of love, philoprogenitiveness, and many other propensities and noble faculties, all snatched from his hands to make up one poor, paltry machine for regulating the baser bodily motions, and another equally contemptible for conveying to the mind the impressions of sense, has vehemently resisted such an appropriation, and endeavoured to obstruct his adversary's progress with five objections. First, removal of parts of the brain is not a good mode of determining their special functions. Secondly, animals do not survive such injuries long enough to show the true alterations which have taken place in their faculties. Thirdly, one part of the brain cannot be removed without injuring others, and the effects of the injury are propagated beyond its precise seat. Fourthly, when he repeated Flourens' experiments, he did not obtain the alleged results (*Sur les Fonc. du Cereb.* III. 379.) To these objections Coster, the pupil of Rolando, replies; First, that removal of parts of the brain is the very best mode of determining their special functions, and is essentially nothing else than an example

of true experimental analysis; Secondly, that Rolando's birds and quadrupeds survived the loss of the brain or cerebellum twenty-four or thirty-six hours, and reptiles several months; Thirdly, that the fallacy, arising from the injury propagating itself to the adjacent parts, may be obviated, and has been obviated, by observing the effect of the reciprocal destruction of these parts; Fourthly, that M. Gall should not venture to uphold his few, meagre, imperfect, and most prejudiced experiments, before the careful and varied researches of Flourens and Rolando, and still more the deliberate approval of the illustrious Cuvier and his no less distinguished coadjutors (*Archives*, I. 413.) Gall's fifth objection is a very odd one, for such a fanciful and reckless theorist to think of; namely, the opinion, that the cerebellum is the regulator of the locomotive movement, must be held rather as a singular idea than as a true discovery. In the present state of matters, it appears to us no small proof of the validity of Flourens' doctrines, that so acute and so captious a controversialist, on a point so injurious to his system, has made so weak an assault, and has been reduced to such sorry subterfuges.

We shall now leave the discoveries and opinions of Flourens to the test of future observation, and turn to the inquiries of M. Magendie and M. Fodéra into the distribution of the nervous properties throughout the different parts of the spinal cord, and the nerves which arise from it. The discoveries of Magendie are not less important or less extraordinary, than those we have hitherto been considering. For he thinks he has made out, that the posterior twigs of the nerves and the posterior cords of the spine are intended for conveying sensation only, while the anterior roots of the nerves and the corresponding cords of the spine only transmit the impressions which call forth muscular contractions.

Actuated, he assures us, by no preconceived ideas, but by pure unbiassed curiosity, he succeeded, after many failures, in dividing, within the vertebra *theca* of a young dog, the posterior roots of the nerves which supplied one hind-leg; and was not a little astonished to find, that the sensibility of that limb had been completely destroyed, while its motions remained unaffected. After repeating this experiment several times, and uniformly obtaining the same results, he naturally thought next of trying the effect of dividing the anterior roots only. Many obstacles prevented the accomplishment of this operation. But at last his attempts were crowned with success; and he was gratified with finding, that now the limb was paralyzed, while its sensibility was unimpaired. The same set of experiments was tried, with the same

results, upon the anterior and posterior roots of the nerves of the fore-leg (*Journ. de Physiol.* II. 276.) Analogous effects were afterwards witnessed on pinching or pricking these different roots. Yet the latter test rather favoured the idea, that the fasciculi for motion had also a slight power of conveying sensible impressions, and those for sensation a slight power of exciting muscular contraction; and this idea was farther confirmed by the effects of galvanism. For when the anterior fasciculi were pinched, pricked or galvanized, besides violent contractions, slight sensation was produced; and the contrary took place when they were applied to the posterior fasciculi. The most remarkable proof of the anterior fasciculi being alone intended for exciting motion, was afforded by dividing them in an animal under the influence of *nux vomica*. This deadly poison, as every one knows, excites most violent convulsions. When the posterior roots of the nerves of a limb have been divided, that limb, like the rest of the body, is nevertheless violently convulsed; but if the anterior roots have alone been divided, it remains at repose amidst the general agitation (*Ibid.* 336.) From these diversified experiments, therefore, Magendie considers himself warranted to infer, that the posterior roots of the spinal nerves are intended (at least especially) to convey sensible impressions, and the anterior ones to convey the exciting cause of muscular contraction.

In a subsequent inquiry, he has extended these doctrines to the parts of the spinal cord corresponding with the anterior and posterior nervous roots. That is, when he pricked the spine between the posterior roots, he excited sensation only; when he did the same to the anterior surface, he merely excited motion. He farther remarked, that the Impressibility of the spinal cord was much more delicate than that of the nervous roots, which have their origin in it; the pain and contractions produced by pricking it being much more violent. But the central part is scarcely impressible at all; a stilet may be thrust along the centre of the whole spine, without impairing either sensation or motion. (*Ibid.* III. 153.)

These observations were scarcely published, when the merit of having made the fundamental part of them thirteen years before was claimed by Mr Charles Bell of London. In a pamphlet, circulated only among his private friends, and entitled, *Idea of a New Anatomy of the Brain*, that gentleman remarks, 'On laying bare the roots of the spinal nerves, I found that I could cut across the fasciculus of nerves which took its origin from the posterior portion of the spinal marrow, without convulsing the muscles of the back; but, on touching the anterior fasciculus with the point of the knife, the muscles of the back were immedi-

ately convulsed.' p. 22. This is certainly Magendie's very experiment. But Mr Bell does not seem to have drawn any positive or general inference from it; neither has he attached to it the importance he would have done, had he been aware of its tendency; otherwise he would hardly have confined the knowledge of it to the narrow circle of his private friends. Yet Mr Bell does not seem to have entirely lost sight of his original experiments; for in a communication addressed to Dr Cook, and published by that gentleman in his work on Palsy, he observes, 'The nerves of sensation and motion are bound together in the same membranes, for the convenience of distribution; but there is reason to conclude, that they are distinct throughout their whole course, and as distinct at their origin in the brain, as in their final distribution to the skin and muscles.*'

We apprehend, therefore, that if the opinion as to the function of the different parts of the spine and nerves prove correct, although the honour of perfecting it belongs exclusively to M. Magendie, yet the merit of having first made it must be surrendered by him, at least in part, to Mr C. Bell. And it is with pleasure we observe, that in a late Number of his Journal, the French physiologist has done ample justice to the claims of our countryman.

But, of course, it is far too singular and too important a discovery, to be admitted without farther and repeated confirmation by other physiologists. The only other person who has hitherto published any experiments on the subject is M. Fodéra. He has sufficiently confirmed the doctrine, so far as concerns the roots of the nerves. But his experiments on the spine itself have been left by him in so incomplete a state, that it is scarcely possible to apply them with precision to any purpose. Yet they are probably sufficient to show, that Magendie's opinion on the difference of properties betwixt the anterior and posterior cords, must receive some modification. Thus he found, that at the middle of the back, the division of the two anterior cords of the spine destroyed the sensibility of the hindlegs, and not their motion, as we should have predicted; while a section of the middle of its posterior surface, for two-thirds of its breadth, did not diminish their sensibility, but impaired their motion. Again, when the right posterior cord was divided in the region of the first lumbar vertebra, the sensibility of the right hindleg was diminished, while the power of motion continued; just as Magendie's doctrine led him to expect. But then, the power of motion was diminished in the left hindleg, while its sensibility was unim-

* Cooke on Nervous Diseases, vol. II. Part 1. 1821.

paired. On the contrary, the very same effect was produced by an incision between the second and third cervical vertebræ, not of the right, but of the left side of the cord. It would appear therefore, that somewhere between the cervical and lumbar region, the four spinal cords cross each other, or somehow make an interchange of properties. But, as has already been hinted, Fodéra's experiments present too many gaps to permit the establishment of these or any other inferences.

Relative to the nervous properties of the spinal cord, M. Fodéra has observed two other facts, worthy of notice here, although, on account of the imperfections in his researches, not yet susceptible of an exact explanation. The first of these is, that after sensibility or the power of motion has been impaired, by dividing a part of the cord, it sometimes returns in a few hours almost to its pristine vigour. The second is, that in very young animals, the complete severing of the cord does not altogether paralyze the muscles posteriorly; they are no longer, indeed, under the influence of the will; yet the limbs execute combined movements with accuracy. He even adds, that they are sensible. But we presume that this is an error in terms; for he surely cannot mean that impressions on these limbs excite true sensation. It is worthy of remark, that the complete destruction of a portion of the spine, even in the youngest animals, causes complete and irretrievable palsy.

The remainder of this memoir is chiefly occupied with some interesting and ingenious remarks on the functions of the fifth cerebral nerve, and portio dura of the seventh. As they form but a part of his researches, the sequel of which is promised in Magendie's next Number, we shall pass them at present very cursorily. M. Fodéra does not wholly agree with the well-known ideas of Mr Charles Bell regarding the functions of the portio dura of the seventh cerebral nerve. For he found, that, in rabbits, the division of its branch, which supplies the muscles of the ear, takes away sensibility as well as the power of motion from every part supplied by it; and when it is pricked, the animal expresses pain distinctly. He has found, that the whole of the fifth cerebral nerve is intended for transmitting sensible impressions only. This had been already proved by Mr Charles Bell, with respect to the infra-orbital branch; and a general idea also prevailed, that the lingual portion was similarly circumstanced. But Fodéra has established it experimentally in regard to the whole nerve. When this nerve was divided just where it enters the skull, an operation of great nicety and difficulty, the sensibility of the tongue, palate, cheek, nostrils and eye-lids, was altogether destroyed, while the motion of all these parts remained

entire or nearly so. As to its lingual branch he observed, that the section of it on both sides rendered the tongue completely insensible, but did not impair its movements; while the section of the hypoglossal or ninth cerebral nerve at once paralyzed it completely.

Having concluded these long and intricate details, it only remains for us, farther, to give a short account of a new hypothesis advanced by Professor Rolando, respecting the nature of the nervous influence. It is professedly derived from his experimental discoveries already mentioned, and is established, if we credit his pupil M. Coster, on the most solid and immoveable foundation. The cerebellum, according to Rolando, is a voltaic pile, which secretes a fluid analogous, if not identical with galvanic electricity; the medulla oblongata is the conductor, in which the fluid is accumulated; and the spine and nerves the channels, through which it is conveyed to the muscles for the purpose of exciting voluntary motion. But the retrograde impressions of sense do not arise from any motion in this fluid; they are conveyed from the circumference to the centre of the nervous system by a species of vibration. This hypothesis, like many others, acquires a fallacious stability by explaining neatly some curious facts in the nervous operations. It shows, for example, why a divided nerve may soon begin again to convey sensible impressions, while it regains but slowly, or not at all, its power of exciting muscular contractions; because the galvanic fluid is transmitted much more easily, than any mechanical vibration, along an interrupted conductor. On the other hand, it shows how sensation may return, and not motion, because the nerve, in healing, may have had its deficiency filled up by a matter solid enough to transmit vibrations, although a non-conductor of the galvanic fluid. Such he considers to be precisely the purpose of the ganglions on the great sympathetic nerve. A ganglion he assumes to be a non-conducting substance, interposed here and there to prevent the passage of the fluid which excites voluntary motion, while from its firmness, it does not impede the progress of sensible vibrations. The hypothesis,—for we will not abuse the language of science by calling it a theory,—is pretty enough and probably just as true as any that has gone before it into oblivion; yet a silly production withal for an illustrious professor to engender, and but a clumsy bauble for his pupil to make such a noise about. Specious, like most hypotheses, in its superstructure, and pleasing in its applications, it is not the less absurd in essence, and false in its fundamental principles; and it merely adds another instance to the numerous and well-known examples of the weakness of philosophers, when they once overstep the strict limits of experimental induction.

Mechanicians will doubtless be eager to learn from M. Coster or his patron what new sort of vibration, what unheard-of vibratiuncle it is, which can travel with the quickness of thought along matter of such consistence as medullary tissue. And physicians must lament with him that Nature, when she made the complicated structure of the nerves, had not rather chosen for the purpose as many metallic threads; which would have conveyed his vibrations and galvanic fluid so much more expeditiously, and admitted of such ready repair whenever they went out of order.

In the foregoing summary we have done little more than merely allude to the experiments of Mr Bell and M. Fodéra on the functions and properties of the individual nerves. We have abstained from minuter inquiry, because the opinions of both of them must probably receive considerable modification from future experiment, and because many new discoveries remain to be made on the subject by the numerous physiologists at present occupied with experimental researches on the nervous system; so that, by a little delay, we have no doubt we shall ere long be able to present our readers with a much more interesting, precise, and stable body of doctrine, than could possibly be drawn up now.—*Edin. Med. and Surg. Jour.* Jan. 1824.

ART. I.—*On the Nature and Treatment of the Distortions to which the Spine and Bones of the Chest are subject; with an Inquiry into the Merits of the several Modes of Practice which have hitherto been followed in the Treatment of Distortions.* By JOHN SHAW, Surgeon and Lecturer on Anatomy.—8vo. pp. 293. Longman, Hurst, Rees, Orme, Brown, and Green. London, 1823.

ART. II.—*Engravings, in folio, illustrative of a Work on the Nature and Treatment of the various Distortions to which the Spine and the Bones of the Chest are subject.* By JOHN SHAW, Surgeon and Lecturer on Anatomy.—London: Longman, Hurst, Rees, &c.

IN the pursuit of the subject of lateral curvature of the spine, which occupies the whole of this volume, our author has been led to treat of an important law in the animal economy. It appears that it holds equally true with regard to our physical powers and the structure of our bodies, as in the constitution of our minds and the disposition of our faculties,—that they are lent to us only for use, and, when unemployed, they quickly fall into decay. But that which appears very singular, is the fact that the substance of muscle, tendon, artery, and bone, are, when

long disused, resolvable and resolved into the common cellular membrane. The facts in proof of this position, which have occurred to Mr Shaw, are so numerous and so striking, that he cannot refuse his assent to the conclusion, and his reader will find great difficulty in explaining them on any other supposition.

‘On first examining the parts (says our author,) which compose a joint, and each of which is so admirably fitted for its peculiar office, we do not at once acknowledge the truth of what has been stated. On the contrary, it is difficult to imagine that the bone, so curiously adapted for security and motion,—the cartilage, so different in appearance from the bone,—and the secreting membrane, so peculiar in its character,—should, with the dense ligaments, the tendons, and bursæ, be all resolvable into a matter similar to the cellular substance by which they are united to each other. But, however improbable this may appear, its correctness is easily demonstrated. As long as a joint is kept in activity, the apparatus continues perfect; but, when the motion of a joint has ceased for some time, all its complex parts degenerate; their peculiar character and structure disappear; they fall into the same condition, and assume the same appearance, with the cellular membrane. When we examine a joint which has been ankylosed, we see that the character of every part is changed. The bone is no longer hard, but softened and cellular; and the bursæ, the capsules, and the ligaments, form one indistinct mass of cellular membrane.’ (p. 3.)

The converse of this statement is found by Mr Shaw to be equally true—

‘That new organs, in appearance and in function, may be formed of cellular membrane. If a bone be dislocated, and its head lie imbedded in the cellular membrane, cartilages, capsules, bursæ, sheaths, ligaments, all may be formed from it; and if these parts, constituting a new joint, be kept in activity, although they may not have the regularity of the apparatus of the original joint, they assume all the characters of the several parts. Even the new cartilage is similar to the original matter, which is supposed to be a substance *sui generis*. The new capsule has also all the characters of the proper synovial membranes. Indeed, when we carry the inquiry further, we discover that all the membranes, which have hitherto been classed as distinct from each other, and supposed to be peculiar in structure, are not only resolvable into common cellular membrane, but may be formed from it.’ (p. 3.)

Such are the opinions of our author, which we have given in his own words. Many and various proofs and illustrations of them are contained in this work, from which it appears that the

cellular membrane is the pabulum, the primordial matter, the common matrix, of all the organs of the body, and not 'merely a modification of the original tissue, in which the peculiar substances that give character to bone, muscle, and nerve, are deposited, but even that from which other parts may be formed.' (p. 2.) This subject seems to have occupied a considerable share of our author's attention, and some hints which are given regarding the changes which inaction induces in the different textures of the body, will be read with interest. But it has an immediate and important connexion with the various curvatures and distortions of the spinal column.

Mr Shaw, in pursuing his investigations, has been led to conclusions exactly the opposite of those which have been adopted by most practitioners,—we mean with regard to the principle of endeavouring to counteract deformity by force, variously modified and differently applied. He has found that, by contending with a distortion in this manner,—by pushing in the direction contrary to the inclination of the vertebræ, the disease will almost invariably be increased.

Let it be remembered that, when patients have recourse to medical assistance for the removal of this unseemly disorder, that the bones have often become settled in their distorted situations, and that the only position in which the patient is comfortable is that ungainly one which is constituted by the deformity. The muscles, ligaments, and cartilages, have become relaxed on one side,—shortened, compressed, and corrugated, on the other. Every effort that is made to restore the spinal column to its proper erect station will, therefore, be attended with pain and difficulty. It is well known that all the collars and apparatus which are made by ordinary bandage-makers, are subject to this inconvenience. The muscles are naturally roused to struggle against machinery so irksome; but let any surgeon for a moment reflect on what set of muscles are thus called into action. Are they not the very muscles whose contraction tends to bind down and confine the spine to its distorted position? Such is the opinion of Mr Shaw,—such must be the opinion of every one who allows himself to reflect for a moment; and, if such be the fact, it is evident that all the complex machinery, with which young women have been hitherto tormented, is incorrect in principle and injurious in practice.

But we anticipate. Before we enter on the consideration of the cure, we have first to go through the examination of the nature of lateral distortion of the spine,—to inquire what are the parts most interested in its production,—and what are its most common exciting causes.

Mr Shaw first establishes the general principle, that whatever weakens the muscles of the back, by taking away one of the strongest supports of the spine, gives rise to distortion. In the enumeration of the various causes of this local debility, the first that strikes us is that of local paralysis, which on a former occasion was the subject of our author's researches. Mr Shaw has found that this is not an uncommon disease in the muscles of the spine and of the inferior extremities, and that it has the effect of distorting the column from its natural erect position. It is frequently a disease of old date, and has not been discovered till the increase of the curvature occasioned a more accurate examination, and led to its detection. Of this Mr Shaw gives the following instance:—'A boy, on coming home from school during the holidays, was observed to limp in walking, and to appear crooked while standing. On being stripped, the left shoulder seemed to be lower than the right; but, on further examination, this effect was seen to be produced by the oblique position of the pelvis. On making him stand up so as to bring the shoulders to the same level, the left heel was raised from the ground; and, on carefully examining the left leg by measurements, it was found to be much smaller in all its dimensions than the right.' (p. 32.) Mr Shaw is inclined to attribute the greater number of such cases of local paralysis to affections of the alimentary canal, having found many of them follow immediately after an attack of abdominal irritation.

The next cause of curvature of the spine mentioned by Mr Shaw is habitual bad position in young people. This is so common a source of distortion, one so important, and so fully treated of in the work under consideration, that we recommend all those who are interested in the subject to peruse the original, of which our limits do not allow us to make a satisfactory abstract. We believe this to be the most common of all the causes of distortion, and that which is, in general, most unscientifically and cruelly treated. All classes of society unite in deprecating the absurd and injurious treatment to which young ladies are so frequently subjected while at school. Under the head of *bad position*, Mr Shaw considers the effects of the various amusements of children; of the different occupations of girls, as drawing, writing, music, and dancing; of the habit of standing on one foot, so common among boys, of stooping, &c.; and under each of these heads he endeavours to trace the manner in which the spine becomes affected, and the particular changes induced. 'If a weakly girl, of ten years old, be obliged to sit for hours on a narrow bench, without any support to her back, it is not surprising that, notwithstanding all the reproofs she may receive, she endeavours to re-

lieve herself by allowing the lumbar vertebrae to sink to one side. This may of itself be sufficient cause for the origin of a curve; but, if the position in which girls generally sit, while writing, drawing, playing the piano-forte, and more especially the harp, be taken into account with the causes already mentioned, it will be admitted that it is scarcely possible for a girl so situated to avoid being crooked; particularly if she is not permitted to take such exercises as give tone and strength to the muscles of the spine.' (p. 56.)

The last observation is the basis of all good practice in this complaint. Every person is aware how much more irksome and painful it is to sit or stand in the same posture for a great length of time, than it is to take even strong exercise. The most robust man feels very considerable fatigue in his back and loins, after having passed an evening at a concert or in the pit of a theatre, or after having stood a part of the morning in a picture-gallery. Yet we expect greater efforts than these from young women, whose bones are yet soft, whose muscles and ligaments are not yet strengthened by time, and indurated by exertion. They are placed on a high stool, and obliged, most unpolitely, to pass hours in a constrained position, their backs aching with exertion, and lamenting in their hearts the grievous necessity of becoming accomplished. It must be singularly unfortunate for them, indeed, if they do not find some opportunity of eluding the keen glances of their governess, and 'of allowing the lumbar vertebrae to sink on one side.' The fact is, that by far the greater number of them do so, and many thus become crooked.

It is a very common opinion, that curvature of the spine is most common in scrofulous habits. This opinion is contradicted in various parts of the work which forms the subject of this article: we regret, however, that it does not any where meet with a lengthened discussion. It is true that the account given so satisfactorily of the origin and progress of lateral distortion, is sufficient refutation of the opinion we have mentioned; yet the idea is so common, that we think a particular discussion of it might have been useful. It appears to us that this opinion has arisen from confounding lateral distortion with caries of the vertebrae; but, from whatever source it may have taken its rise, nothing appears more certain than its fallacy. The softened state in which the vertebrae are sometimes found in this disease, is considered a proof of the scrofulous diathesis being very highly marked. This is a gratuitous assumption, entirely destitute of proof. Mr Shaw has most clearly shown that it is merely owing to the inaction in which the bones have been kept, and is never

to be observed in those decrepid persons affected with lateral curvature, who have been able to use strong exertion, and have not been bed ridden for a long time previous to their death.

Our author devotes a chapter to the refutation of the opinion that the undue and too-powerful contraction of the mass of muscular fibre, which clothes and protects the spine, is a cause of lateral distortion. It seems that this opinion, of German origin, has gained currency in London of late years. That it is incorrect, is sufficiently proved by the following passage, which does not seem to admit of any obvious reply :

‘As the part of the spine between the origin and insertions of these muscles is almost invariably curved in two opposite directions, before we can agree in the opinion that lateral distortion depends on the irregular action of the muscles, we must believe that the lower portion of the muscle on the one side may be in forcible and unnatural action, while its upper part is relaxed ; and that in the muscle of the other side the reverse takes place. But this cannot be admitted ; and indeed, the more the theory is inquired into, the more erroneous it will be found to be. If the distortion depended on an undue action of the muscles of one side of the spine over those of the other, the curve would be always in the form of a single arch, instead of its being of a serpentine shape, as it generally is, between the points from which the muscles arise, and those into which they are inserted. It has been stated, by way of argument, in favour of the opinion, that the muscles on the concave side of the curve are stronger than those of the other ; but I suspect that this statement is not founded on proofs derived from an examination of the muscles in the dead body, for I found those on the convex side to be the largest. Indeed, there is one circumstance in the condition of the nerves of a distorted spine, which would induce us to believe that the muscles on the concave side would be even more deficient in energy than those on the convex side ; for the nerves which pass to them are diminished to less than one-half of their natural size.’

The last of the causes of lateral distortion, taken notice of by our author, is disunion of the bodies of the vertebræ. This is a very common opinion, founded on the circumstance already noticed of the occasional softened state of the vertebræ. Mr Shaw thinks it very necessary that this error should be removed, as it leads directly to a great mistake in practice. It is thus, he informs us, we see unfortunate patients condemned to pass weeks and months in the horizontal posture, adding to the disease it is intended to cure. The wasted and blanched condition of the muscles confirms the opinion that the true origin of this state of the spine is weakness and inaction, and that the only method of

cure, which can prove effectual, is to pay proper attention to the general health, and to call into operation those parts which are suffering from want of use.

‘ In the reports which from time to time have been made on the condition of the vertebræ of persons who have died with lateral curvature of the spine, it is generally stated that the bodies are softened, and full of a scrofulous substance ; but, on investigation, this will be found to be incorrect ; for, in the greater number of instances, the internal structure of the bodies of the vertebræ has a natural appearance. It is easy to account for the mistake. If the vertebra of a patient who has long been confined to bed be examined, the appearance described above is found ; but, if the person has been in the habit of taking exercise a short time previous to death, the bodies of the vertebræ are discovered to be as firm and compact as those in a perfect spine. I trust that it is now almost unnecessary to add, that, instead of admitting that the softened condition of the vertebræ affords a proof of the existence of a scrofulous disease, that it should be considered as merely showing the bad consequences of confinement and want of use. The wasted appearance of the muscles, which is occasionally observed in cases of lateral curvature, and which has been confounded with their state during the inflammatory stage of the carious diseases of the spine, also depends on the same causes as the softening of the bones.

‘ It is well known that the shape of the vertebræ is materially altered in cases where the spine is much distorted ; but, as no mark of disease is discovered when a section of the bones so mis-shapen is made, we may infer that the change of form is a consequence that may be produced independent of any specific disease existing in the bones, especially as it is found to correspond to the direction in which the pressure has been made.’ (See page 93.)

The last subject discussed by Mr Shaw, of which we intend to take notice, is one of very great importance. We allude to the condition of the pelvis in cases of lateral distortion of the spine. He has examined a very great number of cases of diseased spine, and he has uniformly found that, whenever the long bones were unaffected, no narrowing of the pelvis had taken place. Whether this holds universally, seems yet doubtful ; but it is certain that it is true in by far the greater number of instances, and it would also seem to follow from analogy with the other facts contained in his book. If the disease of lateral distortion be separated from rickets, and shown to have no connexion with disease of the bone, we cannot see any good reason for suspecting the pelvis to be interested in the distortion. The fact, however, of there being

not a single example of mis-shapen pelvis accompanying lateral distortion of the spine, either in the museum at Windmill-street, in any of the anatomical collections of the large hospitals, in any of the collections of public bodies or private individuals of this city, —in the museums of Edinburgh, Glasgow, Leyden, or Paris, seems quite decisive of this question, and to afford as extensive and conclusive a body of evidence as can be expected on any subject of medical science. If to this, indeed, be added the recorded cases, which all speak in favour of the same opinion, little doubt will remain that, where the only external evidence of distortion is lateral curvature of the spine, the pelvis is always of its natural capacity. Accoucheurs, indeed, have long suspected that narrowing of the pelvis was by no means a constant concomitant of, and indeed did not bear any proportion to the decrepid appearance of the external form. But it remained for Mr Shaw to point out the great general principle which we have just explained, and to prove it by a well-connected chain of facts and reasoning.

The value of the above rule to midwives is incalculable, and we trust, when generally known, will be found most serviceable to humanity. Every person engaged in obstetrical practice is convinced that a great number of unhappy infants are annually sacrificed by rash and ignorant practitioners. Embryotomy seems to us an act from which the boldest must recoil, and which is calculated to make the most thoughtless reflect: yet it may sometimes be unavoidable,—and, with regard to many of our accoucheurs, we are convinced that, were they not supported by a sense of duty, the operation to which we have alluded would be equally afflicting to their sensibility as to their reason. How many evils follow a single false step in science! Dr HUNTER, whose experience on this subject will not be doubted, has been known to declare to his friends, that nothing gave him more uneasiness, or cost him more consideration, than his annual lecture on the instruments used in midwifery; so fearful was this celebrated physician of giving encouragement to their use: and, though he did not absolutely protest against their employment, it is well known to those who remember his admirable lectures, that he annually stated his belief that it were well for the happiness of mankind had they never been invented.

It has been long supposed that the pressure of stays and other instruments on the pelvis, is a frequent cause of its distortion. This opinion received the sanction of the late Mr WILSON's name. It has been diligently examined by Mr Shaw, and the result of his search is a conviction that it is ill-founded: he has not been able to find a single preparation which countenances it. The cases alluded to by Mr Wilson are all of them ricketty affections,

the preparations being still preserved in the museum in Windmill-street.

We now proceed to give some idea of the plan of cure pursued by Mr Shaw, and we have already anticipated much of what we have to say on this subject. When the nature of a complaint, and the causes that have produced it, are well understood, the method of treatment becomes a very simple matter, in a great many instances. The great principle on which our author proposes to treat all cases of lateral distortion, is to call into habitual exertion those muscles which have a tendency to counteract the deformity. The exercise to which they are submitted must, of course, be proportioned to the strength of the subject, and must never proceed to such a degree as to become fatiguing : but it is wonderful how much exertion persons afflicted with the diseases we have been considering will bear after a little practice.

We find a very striking proof of the correctness of the opinion advanced by Mr Shaw, in an extract from the travels of a German author, cited by Dr BEDDOES, in his work on Consumption. This gentleman was struck with the strong and athletic forms of the skeletons still exposed on the field of battle at Murten, where Charles the Bold, with his Burgundians, fell a sacrifice to the patriotic valour of the Swiss. His expressions are these :—"The three hundred years during which they have been exposed, in great measure, to the open air, have little affected their prodigious firmness of structure. Such bones, and parts of bones, as now moulder down in a few years of exposure were evidently firmer than in the recent subject. From rubbing together in my box, they acquired here and there the polish of the enamel of the teeth. Out of the charnel-house at Murten, I selected skulls that attested the strength of the stroke by which, as appeared from the marks, the helmet was cleft, and which, being pierced in the orbits by the point of the spear, probably belonged to knights, since the spear would be directed against this as the most vulnerable part. I still possess these specimens, and I consider them as an incontrovertible answer to the question, how these knights could wear armour insupportable by the present race? They were more hardy and athletic than we are."—(*Ebell uber die Bleyglafur*, Hanover, 1793.)

This is a more rational account of the prowess of our ancestors than the incredible histories which would make us believe that we had degenerated from their outward appearance and gigantic stature. The truth is, that, as Mr Shaw has stated, the bones become closer in their texture, the whole frame of the body is more intimately knitted, and greatly strengthened, by that life of exertion and fatigue which our forefathers led.

The common practice hitherto adopted for the cure of lateral curvature, has been the use of the inclined plane, and of various kinds of stays and collars. On the use and abuse of the former instrument, we extract the following passage from Mr Shaw, which is replete with good sense, and is so important, that we feel confident it will be read with satisfaction. At the same time, we must say, that our own observation has not led us to form so unfavorable an opinion of the effects of the inclined plane upon the health, even when continued for several successive months.

‘It is scarcely necessary to repeat the arguments that have been already offered in refutation of these views; nor are proofs now required to show that every part of the body is weakened and deteriorated by lying dormant. But I may state, that it is scarcely possible to imagine any means so effectual in preventing parts from performing their natural functions, as the plan proposed for the cure of a disease originally proceeding from weakness. Indeed, this now begins to be discovered, and the use of the inclined plane is gradually falling into disrepute: for it is found that, although a girl, who is slightly distorted, may become more straight after having been confined to the horizontal position for months, she does not gain strength, but, on the contrary, becomes so weak, that she can scarcely walk or stand; and, when she attempts to sit without some artificial support, she sinks almost double, or at least in a state worse than she was in when she first lay down. These are sufficient objections to the practice; but the effects which a long continuance in the system has upon the general health, are still more serious. We find that girls, who have been long confined to the reclining board, are delicate, and liable to all the worst symptoms of hysteria; and I have already mentioned an instance of a young lady having so many symptoms of diseased heart, that she was treated accordingly, although they were afterwards proved to have proceeded from the weakness caused by long confinement to one position.

‘But, in making these observations, I beg it may be distinctly understood that they have reference only to the common notion that close and strict confinement to one particular position is the most probable mode of remedying distortions. Indeed, in the chapters descriptive of what I suppose to be the best means of treating distortions, it will be found that I consider the use of the inclined plane as essential to the cure of lateral curvature. Nay, I would even recommend that a delicate girl, although she may not be in the slightest degree distorted, should lie for some time every day upon the plane. When a girl is growing rapidly, and is at the same time delicate, the weight of the upper part of the body is obviously so much more than the lumbar vertebræ

can support beyond a certain time, that common sense dictates the necessity of giving ease and rest to the spine; and this cannot be more effectually or easily done, than by lying down occasionally on the inclined plane. But this, like many other useful remedies, has been abused, from not paying sufficient attention to the great variety of affections to which the spine is liable.' (p. 157.)

Regarding the use of stays and collars, we find the same opinion expressed in this work which has been maintained by well-informed surgeons in all ages. Whether Mr Shaw, by dissecting the evil a little more minutely, and exposing the source of its baneful effects, will be more successful in destroying it, is a matter of some doubt. It is hard to root out established opinions, however absurd; but every person who gives himself the trouble of considering the following passage, will find sufficient materials for making up his mind on the subject:

'If a lateral curvature of the spine be observed at its commencement, it may be easily cured, or at least prevented from getting worse, unless it depends on some specific disease of the bones. But certain erroneous notions on the means of preventing distortion are now so prevalent, that, although the practice founded on them is not only inefficacious, but even injurious, it is often impossible to overcome the prejudice of parents until the distortion of the spine has proceeded to a considerable degree. Another source of difficulty consists in this, that when the spine is distorted only so far as to produce what a mother calls a *bad carriage*, the means commonly used to correct it are exactly such as tend to increase it.

'For example, if one shoulder projects rather more than the other, or if one side seems a little larger than the other, a pair of stiff stays and a collar, to brace the shoulders back, are immediately applied; and this plan is persevered in, for every person in the family is delighted to see how much the child's figure is improved. But, although the evil may be concealed for a while, its cause is increased by wearing stays or a collar; for the child can no longer take that sort of exercise which is necessary to keep the muscles of the spine in such a state of activity as to fit them for their several uses.

'The examples to prove the necessity of exercise to the proper development of the different parts of the body, afford conclusive arguments against this plan of cure, and also against the practice of encasing children from morning to night in stiff stays. It is not necessary to bring these examples forward a second time; but, as it may be well to show how much the system of using artificial supports has been deprecated by men whose ex-

perience, and whose characters as anatomists, entitle them to be considered as authorities on all questions relating to the human form, I refer to the works of Riolan, Haller, Winslow, Van Swieten, and Portal.

‘Portal has entered at considerable length into the inquiry : among other facts, he states that the muscles of the back are larger, redder, and stronger, in women who have not worn stays, than in those who have used them. He says, indeed, that it is scarcely possible to demonstrate the muscles of the back in those who have worn stays, or any similar contrivances, to support the spine.’ (p. 190.)

Mr Shaw trusts the cure principally to exercise, so contrived as to call into action those muscles which have a tendency to counteract the distortion. Experience has taught him that the only effectual way of treating those cases, is by calling into operation the natural powers of the diseased part, which, by disease and inactivity, have been suffered to languish and decay. It is thus that a blow is struck at the root of the evil, and, by imitating nature, we are taught to cure her aberrations.

A great variety of means have been devised by him to execute this plan : many of them are exceedingly ingenious, but, without the assistance of his diagrams, we should despair of giving a correct idea of them to our readers. We must therefore refer them to the work itself, where they will find details sufficient to enable them both to understand and to apply them. The plates in illustration, reflect high credit, both on the judgment of the author, and the skill of the artist.—*Lond. Med. & Phys. Jour. Jan. 1824.*

Some Observations on the utility of Opium, in certain inflammatory Disorders. By JOHN ARMSTRONG, M. D., Lecturer on the Principles and Practice of Physic* :—There is always a degree of genuine satisfaction in perusing the observations of the author before us on any subject connected with medical science. His opinions always bear so much the stamp of accurate observation, that they irresistibly command our fullest confidence ; and, although on many occasions, as in the communication before us, the principles inculcated are by no means original, and the means recommended to fulfil those principles in no respect novel, yet there is a degree of philosophical concatenation preserved throughout the whole subject, which renders it not only in the highest degree interesting, but throws over the *ensemble* an air of important originality.

* Transactions of the Associated Apothecaries, and Surgeon Apothecaries of England and Wales.

The practice of giving large doses of opium in visceral and other inflammations, as is well known to most of our readers, although Dr ARMSTRONG scarcely seems to be aware of it, has been long recommended by various individuals of the first talent and observation; a practice which we ourselves, after active depletion has been premised, have found singularly beneficial. The following practical observations, by Dr ARMSTRONG, on the treatment of acute inflammation of the peritoneal coat of the stomach or bowels, and of acute peritonitis and hysteritis, are in the highest degree important; and although they occupy very considerable space, we are convinced our readers will hold us excused, when they consider the value of the matter:—

‘I always make a point,’ says Dr A., ‘of seeing the patient bled, in the first stage, to complete relaxation, to approaching syncope, whatever may be the quantity of blood necessary to produce that effect; for it is to the effect, and not to the quantity, which we must look for relief in such formidable cases. As soon as ever the patient recovers from the faintness, three grains at least of good opium, in the form of a *soft* pill, are given, and quietness is strictly enjoined, that, if possible, sleep may be obtained. In some instances I have ordered a less quantity of the opium in a solid form, but have added sufficient of the tincture to make the dose equal. This method is preferable in highly irritable habits, because the sedative influence of the opium is thus more speedily procured. The effects of opium thus administered, are to prevent a subsequent increase in the force or frequency of the heart’s action, and a return of the abdominal pain, while it induces a tendency to quiet sleep, and copious perspiration over the whole surface. In many instances, this simple procedure will remove the inflammation at once, nothing being afterwards necessary, when the patient awakes, but spare diet, absolute rest and quietness, with an occasional mild laxative. But on all occasions, if possible, I visit the patient about three or four hours after the administration of the opium, and if there be pain on pressure in any part of the abdomen, with a hot skin, and quick jerky pulse, I order the patient, in my presence, to be promptly bled again in the same decisive manner as before. Some physicians commit a great, a fatal mistake in the treatment of acute inflammations, by dictating on paper, that a certain, a determined quantity of blood must be taken away, and then they walk about their business, as if all were done, that ought to have been done. What an absurdity, what a strange violation of duty, does this conduct involve! In the first place, a great deal of time is commonly thus lost, which is so precious in

all acute inflammations ; in the second, the determinate quantity of blood, set automatically down, may have no effect in removing the inflammation ; and I repeat, it is solely upon the *effect* produced that the benefit of blood-letting depends, and therefore the effect should always be witnessed by the physician. It is the only safe guide. After this second abstraction of blood, carried again to complete relaxation, I generally prescribe about two grains of opium with three or four grains of calomel, exhibited in the form of a pill, as the faintness disappears. The patient is again left in perfect quietness, and refreshing sleep, with free perspiration, most frequently succeeds. A third venesection is rarely requisite, but if, after the expiration of five or six hours from the second, pain and fever still exists, the operation should again be performed as before, and one grain of opium with two or three grains of calomel given almost immediately afterwards ; while half a grain of the former, with two grains of the latter, may be repeated every four hours till sleep and general perspiration be induced. It is repeatedly observed in my works, and the observation was made long before their appearance, that the specific effects of mercury are easily procured when large quantities of blood are abstracted under its administration. For this reason, the calomel should be given with proportionate care, whenever copious and repeated blood-letting becomes necessary.

‘ When the cure has been left to my own management, I have never found it necessary to order blood-letting more than a third time, in the most severe examples of acute inflammation ; though now and then it has been deemed expedient to apply some leeches to the abdomen, in order to remove slight vestiges of inflammatory action.

‘ It may be asked by some, are no purgatives to be employed in the mean time—are the patient’s bowels to remain torpid under an attack of acute inflammation ? In speaking of peritoneal enteritis, the late Dr Saunders used to observe emphatically, in his lectures, that the best way to open the bowels is, by the lancet. In this remark I cordially concur. One of the greatest and most frequent errors in the treatment of peritoneal enteritis, is the attempt to force a passage by strong cathartics, the artillery to which so many trust, under the delusive idea, that obstruction of the bowels is the main cause of all the mischief. Now, in such cases, constipation is not the cause, but the effect, of the inflammation, and the first and last object is to remove that inflammation ; whereas abstractedly prescribing for the constipation, actually exhibiting drastic drugs in abundance, greatly aggravates the inflammation, indeed generally destroys all chance of recovery. When blood-letting is employed in the manner already advised,

the bowels are very often opened immediately after the operation ; or, if that should not happen then, the full doses of opium afterwards taken either act as aperients, or so favour the operation of aperients that the mildest kind will mostly suffice. But when inflammation of the bowels takes place where the colon is overloaded, considerable advantage will be derived from large clysters of tepid water, which remove the *fæces* accumulated, and tend to lessen the irritability of the stomach ; though the latter can seldom be entirely overcome but by decisive venesection, a measure always imperatively required, so long as any thing like vomiting and pain shall continue in the first stage.

‘ When the peritoneum is alone acutely inflamed, when the pain is diffused over the belly without nausea, retching, or vomiting on the first attack, copious venesection, and full doses of opium have done admirably well ; yet, in that case, there is less hazard in prescribing purgatives at an early period than in enteritis, because, the seat of the inflammation being somewhat remote, the bowels are not liable to be thereby dangerously irritated. Inflammation, however, is not always, as nosological writers would have us believe, confined to certain parts and patches of the body ; for inflammation of what is called the peritoneum proper, not unfrequently extends to that portion of the membrane which is reflected over the intestines. This extension of inflammation is inferred from the diffused pain of the abdomen being accompanied by nausea, retching, or vomiting at the onset, and by a more hurried respiration, and a smaller, quicker pulse than are present in what has been denominated pure peritonitis. In such attacks, purgatives should not be exhibited till the reduction of the inflammation by bleeding and opium ; unless indeed the bowels be loaded at the time ; and then large injections of tepid water may be employed to evacuate the contents of the colon.’

‘ Large and repeated doses of opium tend to lock up the secretion of the liver, and therefore, in acute hepatitis, they should be rarely repeated beyond the second time, being always premised by venesection, and always conjoined with calomel. Moreover, saline purgatives should be freely employed from the beginning, and if any traces of inflammation should be left, in despite of active evacuations, the mouth ought to be affected by mercurials. A similar plan may be pursued in common peritonitis and nephritis. In the first and subsequent editions of the *Illustrations of Typhus and other febrile Diseases*, a striking case of the latter is detailed, in which full doses of opium united with calomel, succeeded even when copious venesection had failed ; and I may here add, that I have since witnessed some cases of inflammation of the bowels, where full doses of opium finally effected the

cure, after bleeding and purging had completely disappointed my expectations. So great indeed is my confidence in full doses of opium in peritoneal enteritis, that if compelled to say, supposing myself the subject of the disorder, whether I would exclusively rely upon them solely, or upon blood letting solely, I should certainly fix upon the former; at the same time I should like to have the simultaneous influence of both remedies, being convinced, that they are far more serviceable combinedly, than separately employed.'

'On some occasions, for example, where a great quantity of blood has been lost in highly irritable habits, I have given larger doses of opium than already stated after venesection, never beyond five grains of the powder, however, nor a drachm of the tincture at once. Owing to a mistake of an attendant, six grains of opium were taken in three hours, but with the most beneficial effects. The subject of this case had been bled the first time about noon for puerperal fever accompanied by uterine and peritoneal inflammation, which was suspended by the operation for some hours, when being again kindled up, she was bled a second time about midnight. The inflammation was then apparently once more suspended, but it returned in the night, and she was bled a third time about six o'clock in the morning, with the same benefit as before. From what had previously taken place, it was suspected that the inflammation would be renewed by that increase of the heart's action which had followed each former blood-letting, and I therefore remained with the patient to ascertain whether or not this would be the fact. In rather less than an hour, the pulse became excessive quick, and the lady complained much of abdominal pain. At this period, three grains of opium were administered, and, by mistake, one grain at eight, one at nine, and another at ten o'clock. She fell into a tranquil sleep, and awakening convalescent, had no return of inflammation. This case may show how the inflammation arises after blood-letting, and how efficacious opium is in arresting its course; though it ought to be remembered, that it is better to prescribe the opium immediately after bleeding, in order to prevent any occurrence of actual inflammation. Another patient, whose case I formerly published, and who was apparently sinking under an abdominal inflammation which had not yielded to copious bleeding and purging, took a drachm, and three hours afterwards, half a drachm of the tincture of opium. He fell into a tranquil sleep, attended by a copious perspiration, and a greatly reduced pulse. From that time he recovered rapidly.

'In some instances, where all signs of abdominal inflammation have disappeared, the pulse continues considerably quicker, and

the skin rather hotter than natural, for a few days, constituting what I have elsewhere designated a simple fever. So long as this form of fever shall exist, the patient must be kept in bed, the diet must be spare, the bowels must be daily opened, and an opiate administered at bed-time. This plan will generally remove the simple fever, provided the temperature of the apartment be properly regulated; but when it does not, small doses of digitalis, repeatedly but cautiously given, till the pulse be reduced, and then withdrawn, will often prove useful auxiliaries to the other means. The Italians appear to be very partial to the employment of such medicines as digitalis, prussic acid, and tartarized antimony, in the beginning of acute inflammations; but my own experience of their great uncertainty, at that period, has led me to discard them from my practice, for time lost then is generally fatal to the sick, particularly in highly acute inflammations of the abdominal viscera. The great advantage of opium over digitalis and similar drugs is, that its effects are rapidly and uniformly obtained after blood-letting; a fact which ought never to be forgotten in the treatment of abdominal inflammations.'—p. 317.

We are glad to observe Dr Armstrong state, that although in the country his success was considerable in what is called *puerperal fever*, yet under the same treatment in London, namely, under bleeding and purging, he is fully persuaded that a great many patients would have been lost. This is precisely our own feeling, and we have repeatedly endeavoured to shew that the puerperal fever of the London females is not that highly inflammatory disorder, or in other words, that it does not bear such active depletion as that, which has been described by various country practitioners, whose works have been, and still are, considered too much as the guiding stars of many practitioners. As opium has a specific effect on the vessels of the head, Dr Armstrong considers that great care is necessary in its exhibition where the brain is affected. It sometimes happens, however, that the cerebral inflammation being removed, a state of general irritation supervenes, marked by a small, quick, tremulous, pulse, a hurried, anxious respiration, with extreme restlessness; and although the patient complains of lightness in the head, yet he seldom has any pain there. Under such circumstances, the author thinks, a full opiate may often be given with great benefit, if the tongue be moist. A similar condition, he observes, not unfrequently arises in the second stage of acute abdominal inflammations; but, in such cases, pain may generally be detected on pressure, and the abdomen is more tense and round than natural. Here too, he is of opinion, if the tongue be moist, that full doses of opium will sometimes save life, when no other measure affords

the least hope, but it is only in 'some cases,' that it will succeed at such an advanced stage. Whether it be, however, in the first or second stage, so far as the author's observation has extended, the opium will not be beneficial in acute inflammations, unless the tongue be moist at the period of its exhibition; and therefore in specific fevers, such as typhus, where the tongue is dried and glazed, it always does harm, even where abdominal inflammation is present. The only cases where he has known opium beneficial whilst the tongue was dry, were those which had been preceded by copious hemorrhage, and in many of these it apparently saved the patient by allaying the existing irritation, and preventing the occurrence of that violent reaction of the heart, by which the hemorrhage is so liable to be renewed.

In several cases of acute inflammation of the pericardium, of the pleura, and of the substance of the lungs, the author has tried large doses of opium after copious venesection, with similar benefit as in the acute abdominal inflammation; but it is a practice which he does not recommend in inflammation of the mucous membrane of the bronchia, an affection which he considers to require, in many instances, the greatest circumspection as to blood-letting, and in which those measures which act simultaneously on the bowels and on the skin are singularly useful. Where the heat on the surface is universally high in bronchitis, and the pulse at the same time expanded and resisting, he has found moderate venesection very serviceable; but when the heat is subdued, and the pulse small and compressible, he has generally avoided it altogether, and trusted to the beforementioned means, with an antiphlogistic diet, and a regulated temperature.

Acute inflammation of the mucous membrane of the small or large intestines, Dr Armstrong considers to be by no means so common as acute inflammation of the peritoneal covering, except in certain epidemic constitutions; but when attacks of this form exist in the villous lining, copious blood-letting, so far as he has observed, followed up by full doses of opium, will generally cut short the inflammation at once, or reduce it to a sub-acute form, which will yield soon afterwards to milder measures. Sub-acute inflammation of the mucous membrane, especially of that portion which invests the small intestines, is exceedingly common as an original affection in this country, both among children and adults. It is generally denoted by an obscure pain in some part of the abdomen increased under pressure, and accompanied by a quick soft pulse, a hottish skin, a slightly furred tongue remarkably red at the tip, and a short way thence round the edges; whilst the stools, from an increased mixture of mucus, most frequently have an oleaginous sort of consistence, and are somewhat

darker and more offensive than natural. In the London Fever Hospital, Dr A. had a great many opportunities of showing the great efficacy of small or moderate doses of calomel conjoined with a few grains of rhubarb, and assisted by a little cold-drawn castor oil.

‘The French pathologists,’ says Dr Armstrong, ‘have overlooked the general connexion which a disordered state of the liver has with sub-acute inflammation of the mucous membrane of the intestines. Wherever this connexion exists, small or moderate doses of calomel, united with mild laxatives, will be found highly useful, seemingly by gently dislodging the morbid accumulations in the bowels, and particularly by increasing a flow of bile, from which, probably, the blood finds a readier access through the liver, and thus influences the circulation of the splenic, the superior and inferior mesenteric veins, and their ramifications. In all cases, however, of this complicated nature, I have applied leeches to the abdomen, and repeated them as long as there was any pain on pressure; and experience has taught me that they may be employed preferably to general blood-letting in most sub-acute inflammations of the mucous membrane of the bowels. In such examples, the blandest and sparest diet is necessary; for any deviation in that respect is apt to maintain the inflammation, in defiance of the best remedies. The more we attend to minutiae in the general management, which involves diet, temperature, quietude, and other points, the more shall we be convinced of their vast importance in determining the results of our practice. In fevers which proceed from peculiar causes, such as malaria, and the specific contagions, sub-acute inflammation of the mucous membrane of the small intestines, particularly of the lower portion of the ileum, is by no means uncommon; but, as in the acute forms of such inflammation, it may be laid down as an axiom, that opium is prejudicial, while the tongue continues dry. Besides, in such cases, the brain and bronchial lining are often sub-acutely inflamed at the same time, a combination which contra-indicates the administration of this medicine.’

This excellent practical communication is concluded by some observations, on the propriety of banishing all *à priori* suppositions, if we wish to arrive at any thing like just principles to guide us in the application of remedies, and to minutely note, not only all the circumstances under which any particular remedy is given, but all the effects which it produces, as, ‘the same remedy produces such different effects under different circumstances, that it might be regarded, practically at least, as a different agent, so powerful is the modifying influence of special conditions, of the system.’

The general effect of opium under small doses has been universally allowed to be stimulating, whilst, under large, it has as commonly been thought sedative. The application of these axioms however to practice has perhaps never been so philosophically adopted, or so ably elucidated, as by the author before us.—*Lond. Med. Intelligencer*, Nov. 1823.

DR HELLER has made a series of experiments on *prussic acid*,* the results of which are very different from those of his countryman, Magendie, having entirely failed in his attempts to cure pulmonary consumption by its means; notwithstanding that he has carried the dose to the extent of fifty or sixty drops of the medicated acid, (that is to say, from twelve to fifteen drops of the pure acid,) in twenty-four hours. In asthma and hooping-cough he has found it of service: with regard to this last complaint, his experience seems to justify the commendations bestowed upon it by Dr Granville. Dr Heller's words are—'I effected more in hooping-cough than in all the other diseases of the chest of which I have yet spoken; that is to say, a cure, which (if I may be allowed the expression) was complete.' He likewise regards it as efficacious in hæmoptysis: but the most remarkable and important of his experiments upon this subject relate to its employment in diseases of the heart. He informs us, that he was induced to undertake these from observing the facility with which prussic acid abolished the contraction of the heart, in animals which were submitted to experiment. He states that he has met with six examples of persons affected with aneurism of the heart, in whom he has been enabled, by means of this acid, to diminish the force of the palpitations, by weakening the contractions, and by moderating the flow of blood towards the organ. Taken, at first, in doses of ten drops in twenty-four hours, this medicine has been carried to the extent of above sixty drops, not only without inconvenience, but with the effect of producing a marked improvement, after other remedies had failed. In three of the patients, the aneurism had already existed for many years, and had acquired a force and power which subjected the life of the patient to constant danger; the medicine retarded but little the fatal termination, but it had the great advantage of moderating the action of the circulating system, and thus gave relief to the respiration. It appears, from the statement of Dr Heller, that these aneurisms had been previously

* *Revue Medicale*, August and September.

treated by means of general and local bleeding, severe regimen, digitalis, refrigerants, blisters, and all the other remedies usually had recourse to on such occasions; but without success, and even without affording any relief.

But the result was still more favourable in three others affected with aneurism, to whom the prussic acid was administered: these are still patients of the author's, and he has the satisfaction, from time to time, of moderating the action of the heart by the exhibition of this medicine. Among them is a man of science, who at first manifested great reluctance to take the prussic acid, being aware of its deleterious nature, but he himself now regulates the dose of the acid which he takes in twenty-four hours, by the force of the heart's action: thus, his pulse, which beats at the rate of 116 in the minute when he remains some days without taking the medicine, only beats at the rate of 98 when he has taken it forty-eight hours, and falls to 80 when he has continued its use for several successive days. It is of importance to remark, that the effects of the remedy, according to Dr Heller, are not perceptible in the commencement of the treatment, and that it is only when the dose has arrived at thirty or forty drops in the day, that the abatement of the circulation is observed. He recommends that we should not exceed ten drops a day to begin with, and this is afterwards to be increased by five drops at a time.

In epilepsy, the medicine seemed to have the effect of postponing the fit, and sometimes of rendering it less violent. In hypochondriasis, it entirely failed.

Some apparent advantage was gained from it in hydrophobia affecting dogs and horses; and hence Dr Heller is led to entertain favourable anticipations of its powers in its disease. These speculations derive no support from the case which recently occurred in St George's Hospital, in which the prussic acid was pushed as far as was consistent with the safety of the patient.

Various cases of hysteria are given, in which this medicine was employed with advantage; and, among others, the following instance of nervous palpitation of the heart is related.—A young lady, aged twenty, who had been married for two years, had been for six months affected with violent chagrin, originating in a passion which it became her duty to overcome. For two months the respiration had been difficult, with frequent tremors, constant oppression, and an accelerated pulse,—symptoms to which she paid no great attention; when, after a short time, the heart itself became the seat of an affection, which consisted of violent nervous palpitations. These re-appeared several times a day, lasted but a short time, and left pretty long intervals; but, on the

slightest lively impression, they returned with much force, and were extremely disagreeable to the patient. In this state she took the prussic acid, without any other treatment, and had to congratulate herself on its employment; for she had not exceeded the dose of thirty drops a-day, when the palpitations were already much diminished, the respiration having become easier, and her improvement very marked. At the end of some days she discontinued the acid; but the palpitations returned, and she was consequently obliged to resume the use of the medicine. This time she continued it during five weeks, without interruption; by which means she got entirely rid of the palpitations. It has likewise been tried by Dr Heller in various other diseases, with results more or less satisfactory; and its external application is recommended in tic douloureux, chronic rheumatism, and darts.

Effects of Iodine in Scrofulous Affections.—Mr Delisser, of 55, Judd Street, Brunswick Square, London, Extraordinary Vaccinator to the National Vaccine Establishment, has sent to us an account of several cases, in which he used various preparations of iodine with good effect. A young unmarried woman of 19 had been affected, for $2\frac{1}{2}$ years, with a scrofulous swelling of the knee, and contraction of the joint. After leeching, a liniment of one drachm and a half of iodine, dissolved and diffused through an ounce and a half of rectified spirit of wine, was ordered to be rubbed on the knee twice a day, for an hour each time. In ten days, the proportion of iodine was increased to two drachms to the same quantity of spirit. The knee was perfectly restored to its healthy state in about a month after the frictions with iodine were commenced; but, to confirm the cure, a plaster of half an ounce of iodine, with an ounce of strengthening plaster, was applied. The liniment smarted the leech bites when recent (probably from the alcohol it contained), but afterwards excited no eruption, redness, or heat. The only obvious effect was pain in the œsophagus, and if the thyroid, or cricoid cartilages were pressed, of soreness along the throat, and constant dryness of the glottis; and Mr D. observes, that every patient with whom he has used iodine, has made the same complaints.

The next patient was a child three years of age, born of highly scrofulous parents, and itself affected in an extreme degree. The iodine was given internally. One drachm was dissolved in ten drachms of spirits; and of this tincture, 15 drops were made into a mixture, with half an ounce of gum arabic, and as much anise water, and taken daily in three equal portions. On the 11th day the daily dose was increased to 30 drops, on the 21st

to 60, on the 45th to 75, and a fortnight afterwards it was discontinued. The child recovered completely, having taken 222 grains of iodine in less than two months.

The third case was one of a lady with scirrhus breast, for which amputation was prescribed. On the 19th of June she began to take a pill, containing one grain of iodine, and two of hemlock powder, three times a day. The doses of the medicines were gradually increased until about the 22d of July, when she began to take 30 grains of iodine, and 18 of hemlock, every 24 hours, which large dose was continued until August 1st. Her appetite then failed; the pulse, which on the 17th June was 70, rose to 130; her mouth fell into a sort of ulceration, with fetid breath, differing, however, from that caused by mercury, and, if possible, more disagreeable; but her complaints were little relieved, and the medicines were discontinued. On the 9th, the symptoms ascribed to it had entirely disappeared. Its use was resumed on the 9th, to the extent of 30 grains daily; but on the 20th, all the former symptoms returning, and the patient having derived no benefit from it, it was finally abandoned. This lady took in all, between the 19th of June and the 20th of August, 1019 grains, being the largest quantity of iodine ever taken by any individual.

These trials, so far as they go, confirm the observations of Dr Coindet senior, on the specific virtues of iodine in scrofula, while they show that it is inadequate to the removal of true scirrhus. We have preferred giving this brief account of Mr Delisser's communication to withholding the detail for a future Number, that others may be induced to make trial of it in one of our most common and intractable diseases. At the same time, we must caution our readers, that the doses given by Mr Delisser are much larger than those given by Dr Coindet. His tincture was made with *one* part of iodine to *twelve* of spirit; and in this form he never gave more than 20 drops three times a day, or six grains of iodine (72 to the drachm), daily; and two ounces of the tincture, or 96 grains of iodine were considered an ample quantity for a full course of the medicine, and sufficient to remove the most obstinate goître. We should also caution our contributors, that, on account of its insolubility, the form of pill is the least eligible; and that the iodine itself is very inferior to some of its combinations, both in efficacy and in convenience.—*Edin. Med. and Surg. Journal.*

Trial for Infanticide.—We have often thought, that an occasional comment on a few of the numberless errors and indiscretions daily committed by medical witnesses in our courts of law,

might conduce in no small degree to the instruction of our readers, the intimidation of offenders, and the diffusion of a taste for medico-legal studies. But we have been withheld from attempting it, partly by the dread of our motives being misinterpreted, and partly by the inaccurate reports given in our only source of information, the daily papers. The following case, however, (for the particulars of which we are indebted to an esteemed correspondent), is so glaring in its circumstances, and illustrates so strongly the danger of that practice, which admits all medical persons whatever to give evidence, that we have no hesitation in departing, in this instance, from our usual reserve.

At the last Autumn Circuit, a woman was tried at a county town in Scotland for the crimes of child-murder and concealment of pregnancy. She acknowledged the latter crime, admitted that she wanted but two weeks of her full period, and pointed out where the body might be found. A child's body was accordingly discovered, as she described, in the bottom of a press, covered with earth, and wrapped in an old petticoat. When it was shown to her, she confessed that it was the body of her child, and that it was in the same state as when she buried it. Two medical gentlemen of respectability examined the body. They declared that it was a full-grown child, rather above the ordinary size, and dead for seven or ten days. (It was examined eleven days after the woman's delivery.) A piece of printed calico had been twisted and drawn twice round the lower part of the neck, so as to produce a very remarkable groove; and another piece of cloth of the same description, and doubled, was applied over the head, mouth and chin, and knotted at the back of the neck so strongly as to flatten the nose. The face was turgid and livid; the conjunctiva of the eyes strongly injected with blood. The umbilical cord was divided eight inches from the navel, and had not been tied. No other marks of violence were found on the body. The lungs were perfectly free from putridity, and swam in water in the same way as when they have been inflated; and the air-cells visibly contained air. From these circumstances taken together, the two witnesses deponed, that the child must have been born alive, and that its death was caused by suffocation. Three other medical persons, who had not seen the body, were examined for the prisoner; *and all of these gentlemen agreed, that if the child had been dead for the period of eleven days, it was impossible for any medical man to come to a conclusion as to whether the child had been alive at the time of its birth.* The verdict was returned, Guilty of Concealment of Pregnancy,—Murder not proven.

* * * The only reason why the fact of the child having been

born alive, should not have been recognizable eleven days after death, must be the decay of the body. But, even laying aside the evidence of the crown witnesses regarding the integrity of the lungs, are these gentlemen not aware, that the pulmonary tissue is 'one of the last parts of the body to fall into putrefaction? Of the host of authorities we might adduce in proof of this, we shall subjoin two only, each of whom speaks from personal experiment. Camper found that at a period (sometimes extending to three months) when the whole bones of the body separated from each other under the slightest touch, the lungs of still-born children *had only begun to decay, and did not float in water.* 'If the body of a still-born child,' says Orfila, in a work published a few months ago, 'be allowed to decay entire, the lungs are observed to putrefy with the greatest difficulty; and they barely present slight traces of decomposition, when the skin, muscles, and several of the viscera, have passed into the state of a liquid, stinking mass; and hence buoyancy of the lungs, in consequence of putrefaction, must be an *excessively rare phenomenon* in medico-legal investigations on Infanticide.' (*Leçons de Méd. Lég.* I. 269. 1823). But although the lungs had really been putrid, and did float in consequence of the evolution of gases, are these gentlemen not aware, that this source of fallacy may be obviated—and we presume it was obviated in the present instance—by the very simplest precautions? (See our Number for last July, xix. p. 449). And, finally, are they not aware, that, besides the buoyancy of the lungs, many other collateral proofs of the child having outlived birth may be discovered long after putrefaction has begun? * * *—*Edin. Med. and Surg. Journal.*

On the Direct Passage of Substances into the Blood. (*Journal Complémentaire, &c.* Septembre, 1823. xvi. 235.)—Although the frequently repeated experiments of Flandrin, Magendie, Mayer, Gmelin and Tiedemann, leave little doubt as to the direct passage of many substances into the venous system, it gives us additional pleasure to notice a farther confirmation of them by a skilful physiologist, M. Westrumb of Hamelin. His experiments are the following. The sulphuretted hydrocyanate of potass, indigo, rhubarb, oil of turpentine, were injected into the stomachs of dogs and sheep; and after various intervals of time, the animals were killed and carefully examined. When a mixture of indigo and oil of turpentine had been used, and the animal was killed 5 hours after the beginning of the experiment, the two substances were plainly manifested to the sight and smell in the whole tract of the intestines, as well as in the blood of the

vena portæ, in the substance of the lungs, liver and kidney, and in the urine; but not a vestige could be recognised in the glands of the mesentery, or in the chyle. The oil of turpentine and the hydrocyanate of potass were given to a sheep in repeated doses during four days, and it was killed half an hour after the last dose. Neither of these easily detected substances could be found in the lymphatic vessels or glands of the mesentery, or in the thoracic duct; but both of them were very obvious in the liver, kidney, spleen, and blood of the vena portæ. Similar results were obtained with the decoction of rhubarb, and the sulphuretted hydrocyanate of potass. Tying the thoracic duct near its termination did not alter the phenomena. The researches of Westrumb likewise confirm those of former experimenters as to the extreme rapidity of the venous absorption. He detected rhubarb in his own urine five minutes after swallowing an ounce of its infusion; and after the same period in rabbits, but not earlier. Half a grain of the hydrocyanate of potass given to a little dog, became sensible in the urine *at the end of two minutes.*—*Edin. Med. and Surg. Journ. Jan. 1424.*

Inflammation of the Tongue Cured by Incisions. (*Journal Universel, &c., Juin 1823. xxx. 367.*)—A stout young woman, after exposure to cold, experienced a considerable diminution of the menstrual discharge; and not long afterwards was attacked with severe pain of the throat, impeding deglutition and the movements of the tongue. The tongue then began to swell, and soon became so voluminous, as to block up the fauces, project out of the mouth, press down the lower jaw, and cause a distressing sense of approaching suffocation. At the commencement of the disease, irritating clysters were given, leeches were applied to the vulva, and blood drawn from the feet, but in vain. At last her attendant had recourse to the expedient of making two deep incisions from the base to the tip of the tongue. A few hours afterwards, the swelling had abated so considerably, that the woman was able to close the jaw. The tartrate of potass and antimony was then prescribed, even so as to produce vomiting; her state continued rapidly to improve, and she was completely well on the eighth day. This severe practice has been resorted to by many practitioners in similar circumstances, and almost invariably with success. The author of the paper from which we have extracted the foregoing notice, refers the reader in particular, to a treatise on the subject, in the 5th volume of the *Mémoires de l'Académie de Chirurgie*, by de Lamalle, who professes to have derived it from Job-a-Meekren, a well known Dutch surgeon of the 17th century.—*Ib.*

On the Use of the Sulphate of Kina in Intermittent Fever. (*Giornale Arcadico di Scienze, &c.*, Novembre, 1822, xlvii. 129.)—The following statement by de Rossi of Anani and, Tonelli, a physician at Paliano, is derived from the most precise and extensive experiments yet published on this subject. Both of them have made up a set of admirable tables, from which we have deduced the subsequent particulars. De Rossi used the sulphate of kina in 64 cases, namely in 8 simple tertians, 29 double tertians, 2 simple quartans, 17 subcontinued, and 8 pernicious intermittents. *All of these were cured; 50 had no subsequent paroxysm, 7 had only one very slight fit, 5 two similar fits, 1 several fits, and 1 passed into a continued remittent fever.* One person affected with a quartan for twelve months, recovered after a single slight return of the paroxysm. The quantity of the salt used varied between 12 and 72 grains; and in 45 cases did not exceed 24. The remedy was given in pills, and always in the apyretic intervals, in doses of 4 grains every hour, or every alternate hour; and, in general, to confirm the cure, 4 grains were given daily for 10 days after the last paroxysm. The principal advantages to be derived from it, in preference to the bark itself, are the following:—It may easily be given to children, and to those who have a disgust at bark, or are affected by it idiosyncratically; and it has a rapidity of effect, especially in pernicious and sub-continued intermittents, far surpassing that of the bark. He farther proves, that large doses produce no bad consequences; in other words, that it can never act poisonously; that it may be given safely to persons of all ages and temperaments, to puerperal, pregnant and menstruating females; and that, when it fails, the failure is owing either to the existence of some other morbid cause, or to the sulphuric acid being present in excess, or to the salt being decomposed by pharmaceutic substances intermingled, or by other matters which it encounters in the alimentary canal. The observations of Tonelli are equally pointed. He used it in 65 cases, namely in 4 quotidiens, 22 simple tertians, 31 double tertians, 3 simple quartans, 2 double quartans, 2 subcontinued, and 1 pernicious intermittent. All of them recovered, except the last, who would not take the remedy till he was insensible, and near the point of death. Forty-two recovered without any return of the fit; of the 65 cases only 43 required a repetition of the first dose, which varied from 12 to 18 grains. These results, especially those of De Rossi, who used the salt in greater quantity than Tonelli, and in a greater number of bad intractable cases, place the superiority of the sulphate of Kina beyond all doubt, both as to convenience and efficacy.—*It.*

Application of Galvanism to the Extraction of Urinary Calculi.
(*Annales de Chimie et de Physique*, Juin 1823. xxiii. 202.)—

MM. Prevost and Dumas, the Genevese physiologists, whose ingenious researches on the blood and on urea, we noticed in our last Number, have just published the outline of some experiments they have made, to prove, that the extraction of urinary calculi from the bladder may be facilitated by means of galvanism. They found that when a fusible calculus (ammoniacomagnesian phosphate) was placed between the extremities of the conductors of a trough containing 120 plates, and was plunged in this state under water, the bases and the acid were gradually transported to the opposite conductors, and there combined anew in the form of a fine powdery precipitate. The process having been continued upwards of 16 hours, a calculus which weighed originally 92 grains became so friable, that the slightest touch broke it down into small crystalline grains, none of them larger than a lentil. They next proved to their satisfaction, that a pair of conductors, protected by some non-conducting substance to within a few lines from their extremities, might be introduced into the bladder of a dog, and connected with a trough of one hundred and thirty-five plates, without occasioning any uneasiness to the animal; although the same apparatus immersed in water decomposed it so rapidly as to furnish a *torrent* of gases. Having thus found that no harm could result from disengaging the galvanic fluid in the bladder, they finally proceeded to introduce the same conductors into the bladder of a middle-sized bitch, but with a fusible calculus fixed between them: the bladder was then distended with water, and the conductors were connected with the galvanic trough. After the calculus had been thus acted on, for an hour twice daily, during six days, it had lost more than an eighth-part of its weight, and had become so weak and brittle, that it could not be introduced again into the bladder. The animal was killed a few days afterwards, and the bladder was found to be quite free from injury or disease.

These experiments certainly prove that a small fusible calculus, when brought between the conductors of a galvanic battery, undergoes gradual decomposition within the bladder. The authors infer, that all other calculi consisting of compound salts, may be decomposed in the same manner; and they anticipate with considerable confidence the application of their discoveries to the treatment of urinary calculi in man. We have no wish to damp their ardour in these curious investigations. But any one may recognise, that in the list they have annexed of difficulties which remain to be encountered, and which they propose to make inquiries upon, they do not include some of the most

obvious and insurmountable. Further, as they themselves remark, the projected plan of treatment cannot be applied to calculi of uric acid, which, according to the statements of Mr Brande, forms the whole or greater part of three-sevenths of the stones analyzed by him.—*Ib.*

Application of the Stethoscope to the Diagnosis of Fractures. (*Arch. Gén. de Med.* Aout 1823, ii. 631.)—M. Lisfranc, the well known lecturer on operative surgery at Paris, has completely succeeded in realizing a conjecture started some time ago by Laennec, with regard to the applicability of his stethoscope to the diagnosis of fractures. With the aid of this instrument, he avers that no surgeon can ever remain in doubt as to the existence of a fracture in any part of the body, except the head. The tumefaction around the injury can never be so considerable as to obscure the crepitation entirely; and the slightest possible movements are sufficient to produce the requisite sound. The following general rules have been established by frequent observation, both on the dead and on the living body. 1. The instrument may be applied over the seat of fracture with or without the end-piece; but the farther it is removed from the seat of injury, the sound is the more distinct when the end-piece is removed. 2. When the bone is near the surface, the sound is always most distinct; the slightest motion elicits it; and it is most sensible just over the fracture. Hence we may thus discover the precise seat of the injury. 3. The crepitation diminishes as the instrument recedes from the fracture, yet may be felt at a very great distance. 4. When the bone rides, the sound is less obvious; but it becomes more distinct after extension and counter-extension. 5. The crepitation of compact bones gives a sharp, strong crackling, even sometimes so loud as to grate upon the ear. 6. That of spongy bones resembles the action of a file on such a substance as pumice, interrupted, however, by occasional sharp crackling. 7. Oblique fractures crepitate more distinctly than those that are transverse. 8. If liquids are effused round the broken ends, a sound is superadded, like that of the foot when thrust into an old shoe soaked with water. 9. When the fracture is complicated with splinters, the crepitation is united with a crackling as of several cornered bodies rubbing each other. 10. When it is complicated with laceration of the soft parts, the crepitation is united with a sound like that of a person breathing forcibly with the mouth wide open. 11. Dislocations give a very obscure dead sound, almost confined to the seat of the displacement. 12. The sliding of the tendons in their sheaths causes a full, dead sort of shock, quite different from crepitation.

The ingenious author maintains that two advantages attend this application of the stethoscope. In the first place, some fractures will be at once detected, which can be recognised in no other way; and, secondly, fractures of every sort may be easily and accurately recognised, with far less pain to the patient. Although we have not yet made trial of the stethoscope for this purpose, yet from what we know of its utility in pectoral diseases, and of the common principles of acoustics, no doubt can be entertained of the correctness of M. Lisfranc's experiments. It is only necessary to warn the reader, that, in employing the instrument of Laennec, either for this or any other purpose, he must not expect to succeed at the first attempt. To use it successfully requires considerable previous study, and perhaps also some tuition,—a fact, which never seems to occur to the numerous practitioners in our country, who neglect and despise it, without having taken any pains to appreciate its merits. M. Lisfranc has also applied it to the detection of urinary calculi, of biliary calculi, and of hyarthrosis. The first of these applications is useless; the fingers which hold the sound being just as fit for the purpose as the stethoscope held over the pubis. Out of many trials, the author detected the presence of biliary calculi in one instance only. Its use in hyarthrosis is obvious.—*Id.*

Detection of Poisoning with Arsenic a month after interment: (*Archives Générales de Médecine*, Aoul, 1823, ii. 58.)—It is not long since we had occasion to notice an instance, from the same excellent Journal, of the successful application of chemical analysis to the discovery of poisoning by arsenic. The following is a still more admirable example of the necessity of patient and complete examination in medico-legal inquiries. Professor Orfila, and three other medical gentlemen, were requested by the *Procureur du Roi* to examine the body of a person who had been dead about a month, and was buried in the cemetery of Pere-Lachaise. When the body was disinterred it emitted a very disgusting smell, which was removed, however, by ablution with the dissolved chloruret of lime.

The skin was everywhere of a mottled green or brownish colour; the epidermis and nails could be peeled off with facility; the subcutaneous cellular tissue was blown up with gases, and at some points the skin had begun to break down into *putrilage*. Notwithstanding these signs of advanced putrefaction, the inspectors proceeded to explore every cavity in the usual manner. Few appearances of note were detected in the head, thorax or pharynx. A few ounces of an oleaginous fluid (changed by putrefaction) were found in the sac of the peritoneum. At the splenic end

of the stomach, before the vasa brevia, there was a yellow spot externally, corresponding to a similar spot on its inner surface. Various reddish stains were scattered over the villous coat, and at the pyloric end some ecchymosed spots were apparent; but no decided evidence existed of these appearances having been the result of inflammation. The stomach, duodenum, and jejunum, were lined internally with a yellowish mucus; the ileum was empty; no part of these intestines exhibited any trace of inflammation. 'Nothing particular had yet caught our attention,' continues the narrator, 'when at last we encountered a little whitish particle, which, when examined with a magnifying glass, seemed to possess all the physical properties of the oxide of arsenic. A few more grains of the same description were then detected in the parts which we had already examined. These grains exhaled an alliaceous vapour when projected on burning charcoal; and their solution in water gave a yellow precipitate when treated with hydro-sulphuric acid with the aid of heat. The large intestines were then opened, and there we procured a great abundance of the same white powder; which was submitted next day to all the necessary tests, and distinctly proved to be the white oxide of arsenic.' The relator adds, that the greatest quantity of powder was always found where the yellowish mucus most abounded.

The circumstances under which the crime was effected being rather singular, we shall extract them as they are related in the *London Courier* for the 2d of last December.—Madame Boursier, the wife of the deceased, had, for some time, indulged in an illicit intercourse with a Greek of the name of Kostolo. On the 28th of June, the husband complained to the girl who used to prepare his breakfast, that his rice had a very disagreeable taste; yet, only a few minutes before, the girl, according to her daily custom, had retained a portion of the same dish for herself and one of the children, and both had eat it without perceiving any bad taste, or experiencing any inconvenience. During the interval betwixt the preparation of it in the kitchen and the time when M. Boursier partook of it in the parlour, his wife had been repeatedly passing and repassing from one room to the other. Not long afterwards the deceased was attacked with vomiting, which recurred frequently and violently till his death, which happened forty-three hours after the meal supposed to have been poisoned. The medical gentlemen asked permission to examine the body; but this was refused; and it was hurriedly interred next morning. Notwithstanding these suspicious circumstances, and the positive discovery of poison in the body, the woman was declared not guilty; but report does not inform us what presumptions were in her favour.—*B.*

On the Reunion of Wounds after great Operations. (*Archives Gén. de Méd. Juin. 1823.*) M. Lisfranc, in a very elaborate memoir on a new mode of performing amputation at the hip-joint, has observed, that to prevent consecutive hemorrhage after this and other great operations, M. Dupuytren proposed to delay the dressing of the wound for two or three hours. Lisfranc himself has found, by many experiments on animals, and some trials on man, that, when the wound is left exposed till the oozing of blood has ceased, and is then carefully wiped, immediate adhesion is much more frequent than after the usual mode of management. Hemorrhage, he adds, is always most hazardous after the wound has been dressed; time is lost in removing the dressings; they often adhere firmly to the wound, so as to cause more pain by their removal than the operation itself; and the clots deposited in the cavity of the wound, though M. Serres has found them sometimes organized, may nevertheless play occasionally the part of foreign bodies, hindering adhesion, and exciting dangerous inflammation. The practice here recommended has been for some time employed by several London surgeons, and has also, we believe, been tried in this city. It is very favourably spoken of by all who have had recourse to it. A delay, however, of half an hour, or three quarters of an hour, has generally appeared quite sufficient for the oozing of blood to cease.—*Ib.*

In HUFELAND's Journal, we find it proposed by M. MAYER to remove the *polypus of the nose* by means of the powder of the *marum verum*, taken as snuff, to the amount of five pinches in the day: it is productive of occasional hemorrhage, and ends by destroying the polypus. A case is given by M. Mayer, in which the tumor had grown after repeated extirpation, and which was cured by the marum taken as snuff for a short time. This proposal, unlike some of those emanating in Germany, has therefore actually succeeded; and we are the more anxious to give currency to the above fact, as the operation of extirpation is a very barbarous one, and seldom affords more than a temporary relief.—*London Medical and Physical Journal, January 1824.*

Oil of Turpentine in Sciatic Neuralgia.—M. SEDILLOT read, at a subsequent meeting, in the name of M. LAROCHE, a *Mémoire* on the good effects of the oil of turpentine in *sciatic neuralgia*. The author administered this substance in the dose of a drachm (gr. 59.07 Troy) to an ounce (7 dr. 52. 56 gr. Troy) of syrup. In several individuals, the cure was speedy and complete, whilst in others a relapse took place; in all, however, relief was experienced. In some, a copious perspiration preceded the disappearance of the neuralgia.—*Lond. Med. Intel. Nov. 1823.*

IN the month of January, a person in Lexington near Boston broke out with the small pox, which it appeared had been communicated by a man from Philadelphia. The wife of the person first affected exhibited appearances of the disease soon after: and at a more remote period a number of individuals, in the whole eighteen or twenty, had the small pox, of which three or four died.

Soon after the occurrence of the two first cases, the mayor and aldermen of Boston, resolved on a general vaccination in the city, and immediately, on a two days notice, called ward meetings: the ward meetings appointed committees: the committees elected ward physicians, generally the first who applied, and authorized them to proceed and vaccinate all the poor they could find willing to accept their services. Immediately there was a great push for vaccine fluid, and a great struggle to vaccinate as many persons as possible. The consequence was that a number of individuals were imperfectly vaccinated, and whether a large proportion were properly vaccinated will not probably be ascertained until the small pox shall prevail.

It is a subject of regret that the City Government did not condescend to ask the opinion of physicians, as has usually been done in such cases. For many persons are of opinion that physicians are the proper judges of what concerns diseases, as lawyers are of the administration of justice, and politicians of the health of the body politic: and it might be a question what was the best period and what the surest and safest mode of effecting a general vaccination.

During the operation of the vaccinating process some persons in Pleasant Street had the small pox eruption: but the disease did not extend itself.

TO CORRESPONDENTS.

Communications have been received from Drs Parkman, Marcey and Shertwood. Correspondents are requested to send their communications *post paid* to the EDITORS, at least *one month* before the Number is due for which they are intended.

Erratum.—Page 143, line 3 from top, for ‘Dr Orsburns’ (Osborn’s) read ‘Dr Osburn’s,’ [Osborn’s.]

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No. III.

Observations on the Functions of the Absorbent System. By
JONATHAN KNIGHT, Professor of Anatomy and Physiology in
Yale College.

[Communicated for the New-England Journal of Medicine, &c.]

BEFORE the discovery of the Lymphatic system of vessels, all absorption, both of solids and fluids, was supposed to be carried on by the veins. Since their discovery, they have been considered by most physiologists, as the sole agents of this process. In most of the late systems of Physiology, this doctrine is laid down in the broadest terms, and is considered as settled. That the object of this system of vessels is to take up and convey to the blood, various substances, either for the purposes of nutrition, or for the removal of useless parts out of the system, appears to be unquestionable; but I have long doubted their performance of the extensive operations which have been assigned to them. The subject is involved in obscurity and where we find such men as Haller, Meckel, Hunter and Bichât in doubt upon it, others may well proceed with much caution.

I shall attempt to shew that the object of this system of vessels is to absorb and convey to the blood, those substances, (and which are principally and perhaps, solely fluids.) only, which are found in the cavities of the body; including under the term *cavities*, those which having no external communication, are lined by a serous membrane; those which having an external communication, are lined by a mucous membrane, and all the cells of the cellular membrane. This idea excludes the lymphatics from all

agency in that gradual and constant removal of the solids, which is continually going on in the living body, and almost of necessity, attributes this removal to the action of the veins.

The negative part of the proposition, that these vessels have no agency in the removal of the solid parts of the body, is all that is necessary to be proved, and to this, I shall principally confine my remarks.

That this opinion is true, I argue, in the first place, from the absence of all *direct proof* of their agency in this process. The idea that they are the *sole* agents of absorption has rather been taken for granted, than proved. The object of the first discoverers of these vessels, and their followers, has been to prove, either, merely that they were absorbents, or that they were the sole absorbents of particular substances, as the chyle, &c. In this they appear to have succeeded, but so far as I know, no direct proof of their agency in the removal of the solids has been offered. Hunter attempted to prove, and in the opinion of many succeeded, that venous absorption does not take place from the surface of the intestines. This proves only that the lacteals are the sole absorbents from the intestinal cavity. For aught that appears from these experiments, the veins may be the agents which effect the gradual removal of the substance of the intestines themselves; or that they are what Bichat calls the nutritive absorbents of the part. Other physiologists have proved, or attempted to prove, the same thing with regard to the removal of fluids from the surfaces of other organs; but all are deficient in any *direct proof* of the agency of the absorbents in the removal of the organs themselves. This has been rather a matter of inference than of proof. It is nothing new for discoverers to attribute more to the objects discovered, than subsequent examinations confirm; nor for an error thus introduced to be extensively believed. Thus when this set of vessels was discovered, and when it was proved that they were absorbents, it is not strange that they should, upon very slight grounds, be regarded as the sole agents of this process.

2dly, It is strongly probable, if not certain, that the veins do absorb a portion of the solids. It can scarcely be questioned that the carbon of the body is taken up by the minute veins in every part of the body, and is eliminated from the system, principally, at the lungs. That the carbon is taken up directly by the capillary veins, is inferred from the change which takes place in the colour and properties of the blood while passing through them, or while passing from the capillary arteries to the capillary veins. This change is exactly the converse of that which takes place in this fluid in the lungs. In the lungs it is caused by the

abstraction of carbon from the blood ; it is therefore reasonable to infer that the alteration which takes place in the capillaries of the system, is effected by the addition to it of this substance. In the lungs the blood is changed from a dark to a bright scarlet colour, by the abstraction of carbon : in the extreme vessels the change is from scarlet to black, by the addition, or absorption of the same substance. The experiments of Magendie and Delisle might here also be mentioned, by which they attempted to prove the conveyance of poisonous substances into the system through the medium of the blood vessels. I have, however too little confidence in a set of severe experiments upon the living body, instituted to prove a physiological point, to insist much upon them. The experimenters commonly succeed in proving their position, at least to their own satisfaction. Whether this results from an inaccurate observation of the phenomena, as they occur, or whether, from the violence done to the animal in the course of the experiment, the ordinary functions of the several parts are not properly performed, it is unnecessary to determine. The fact, that very various and entirely opposite opinions concerning the action of many parts of the animal body have been apparently proved by different experimenters, is sufficient to put us upon our guard in giving them credit. It is said also, that these experiments of Magendie, have been repeated by others with a very different result.

If then the veins do absorb a portion of the solid matter of the body, the fair inference is that they may and probably do absorb the whole.

3dly, One portion of this system of vessels, viz. the lacteals, has always been believed to be confined in its action, to fluids within a cavity. These vessels have never been supposed to absorb any other substance than the chyle or fluid formed by digestion in the cavity of the alimentary canal. The lacteals are an important part of the general system of the absorbents. In structure they are the same, though commencing differently, they finally unite in a common trunk. They sympathize strongly with each other, both in health and disease. In vessels so similar in structure, and in so many ways connected with each other, the fair inference is, that they are alike in function, and that, as the lacteals take up only fluids from a cavity, the same is true of the lymphatics.

4thly, The diseases which arise from a torpid state of the minute branches of the lymphatics, or from pressure upon their trunks, affect only the cavities of the body. Thus dropsies of the large cavities, or of the cellular membrane, often arise from each of these causes. But whoever heard of an enlargement

of the muscles, bones, or of any of the solid parts of the body, having been produced by either of them? This surely ought sometimes to occur if the lymphatics are the sole absorbents of both solids and fluids.

5thly, The situation of the lymphatics is in favour of the opinion that their action is confined to fluids within cavities. They are found abundantly in the subcutaneous and other cellular membrane, and upon the surfaces of all the cavities, while comparatively few exist in the solid parts of the body. So abundant are they in the serous membranes, that these have been considered by many, as little more than a tissue of exhalant and lymphatic vessels. It is no objection to this argument, that lymphatics have been observed, less abundantly, in every part of the body; for no one will pretend that they are more generally diffused than the cellular membrane.

6thly, The analysis of lymph confirms the opinion advanced. The following is the account given by W. Brande of the composition of this fluid. (*Philosophical Magazine* for Aug. 1812 and *Eclectic Repertory*, vol. 3. p. 298. 'The fluid found in the thoracic duct of animals that have been kept for twenty-four hours without food, is perfectly transparent and colourless, and seems to differ in no respect from that which is contained in the lymphatic vessels.

'It has the following properties:

'1. It is miscible in every proportion with water.

'2. It produces no change in vegetable colours.

'3. It is neither coagulated by heat nor acids, nor alcohol, but is generally rendered slightly turbid by the last reagent.

'4. When evaporated to dryness, the residuum is very small in quantity, and slightly affects the colour of violet paper, changing it to green.

'5. By incineration in a platina crucible, the residuum is found to contain a minute portion of muriate of soda; but I could not discover in it the slightest indications of iron.

'6. In the examination of this fluid, I availed myself with some advantage of those modes of electro-chemical analysis, which on a former occasion I have described to this Society.*

'When the lymph was submitted to the electrical action of a battery consisting of twenty pairs of four-inch plates of copper and zinc, there was an evolution of alkaline matter at the negative surface, and portions of coagulated albumen were separated. As far as the small quantities on which I operated enabled me to ascertain, muriatic acid only was evolved at the positive surface.'

* *Phil. Trans.* 1804. p. 373.

This analysis I have given entire in the words of the author. From this it will be seen that all that exists in pure lymph, besides water, which makes up the principal part of it, is albumen and muriate of soda. These substances exist in most, if not all the animal fluids, and in the simplest of them, such as serum, &c. no others are usually found. Indeed the strong resemblance, if not identity, between the lymph, and the fluid found in all the closed cavities cannot fail to strike the mind of the enquirer.

We find in the lymph no indications of the presence of the matter of the muscles, bones, or of any other of the great variety of the solid portions of the body, either in their proximate or ultimate forms. This is wholly inexplicable upon the idea that the lymphatics are the sole absorbents of the body, or indeed that they are at all concerned in the removal of its solid portions.

I have endeavoured to present this subject in the most brief and simple manner, not embarrassing it with extraneous matter, nor noticing many of the ingenious opinions which have been advanced within these few years, upon various parts of the general subject of absorption. My sole object has been to shew, that the absorbents are confined in their action, to fluids within cavities.

Observations on the various methods of treating the fractures of the Os Femoris, with Cases, in which a new apparatus was successfully used. By LUKE HOWE, M.D.

[Communicated for the New England Journal of Medicine and Surgery.]

THIS part of surgery has, undoubtedly, received that full share of attention, both from ancient and modern surgeons, which the importance of the subject demanded. It was conceded by Celsus, that, in oblique fractures of the femur, a shortening would, inevitably, take place. And Benjamin Bell, lamenting, that the modes of treatment in use, would sometimes fail, says, 'Indeed an effectual method of securing very oblique fracture in any of the bones of the extremities, and especially the thigh bone, is perhaps one of the greatest desiderata in modern surgery.' The ancients merited much for ingenuity in their various machinery for the extension of a fractured femur; and their frequent failures of success are, principally, to be imputed to their very imperfect knowledge of the indications of treatment. Later surgeons have been better informed in respect to the causes, which so often defeat their skill; and have directed their attention to the source of the evil with better prospects of success.

We, still, too often, witness limbs shortened and distorted by

fracture, to be satisfied with the present methods of treatment. Perhaps, it may be said, and too often justly, that the frequency of failure is imputable, not so much to the methods adopted, as to a want of their proper application. We may, then, infer, that the apparatuses in use are either too complicated for the skill and common attendance of the majority of surgeons, or too uncomfortable to be borne by the patients.

Surgeons are not yet agreed on the most proper position of a fractured thigh. The ancient Greek and Arabian surgeons placed the limb in the extended posture. This continued the practice, till Pott, perceiving, that the cause of the retraction of the bone, was in the tension of the muscles, renounced all the machinery for extension in use, and relied on the relaxation of the muscles, by flexing the thigh on the body, and the leg on the thigh. The English surgeons have since generally adopted this principle in their practice; and have united with it, some of the advantages of extension. This improvement was made by Mr White and Mr James. A similar apparatus has been recommended and used with success by Mr Charles Bell and Mr Cooper.

We do not hear of extension being made from the ankle, till practiced by Dupouy and Fabre in the reduction of the fractured femur. Desault, after he was induced to abandon the semiflexed position in consequence of frequent failures, applied the principles, which governed them in the reduction, to the maintenance of the fracture. The ankle was confined by bands to the foot of the bed, while another was passed round the chest, and tied to the head of the bed. This apparatus was used with success in some of the hospitals of Paris. But we are told, 'the slightest disease of the chest rendered the pressure of the body bandage insupportable. It was this very inconvenience, which, having, in a certain case, rendered the preceding apparatus inadmissible, suggested to Desault the following one,' viz. his well known apparatus of splints for permanent extension. This apparatus received some improvements in France, where it was generally employed; but its most important improvements were made in this country by Drs Physic and Hutchinson. The objection, which was made to the first method of Desault, that 'the utmost care and attention were here indispensable; every day it was necessary to examine the rollers several times, as they readily became relaxed, is equally applicable to his last apparatus.* The same may also be said of the ingenious apparatus of Boyer. He had a full knowledge of the correct principles of treatment; and applied to these principles the advantages of the screw,

* See Desault's *Treatise on Fractures*, &c. by Bichât. p. 244.

which, under less favourable circumstances, had been used for the same purpose by Hildanus and later surgeons. Yet, that this apparatus is not sufficiently simple for private practice, and is insupportable by the delicate constitution of women and old people, are admitted by Boyer himself.

A new apparatus has lately been announced, which promises a more successful application than any, which has preceded it; this is Hagedon's. This makes the sound limb the extending power; or, perhaps, more properly, the fulcrum, over which a foot board and splint united act as a lever of the first kind. Both feet are secured to the foot board, and the splint to the sound thigh. This contrivance will undoubtedly operate with less inconvenience to the patient, than the usual means of extension and counter-extension, while it unites most of their essential qualities.

In the third volume of the 'Philadelphia Journal of Medical and Physical Sciences,' Professor Gibson relates a case, in which he applied Hagedon's apparatus, after a failure of success with Desault's. Though he gives preference to the former, he thinks it imperfect, and susceptible of improvement. He found that, 'owing to there being but one splint, and that extending a short distance only above the hip of the sound side, the injured thigh of the patient was left without support—and the superior fragment, carried down by the weight of the body, and by the inclined pelvis, passed the inferior fragment, and shortened the limb.' 'It then,' he says, 'occurred to me, if I construct two splints each padded or stuffed like the head of a crutch, and long enough to reach from the arm pit to the foot, and secure these by circular bandages around the body and limbs, and by a foot-board, the necessary support must be given, the pelvis cannot incline, and the broken limb must remain of its natural length. The experiment was tried; and with the happiest effect; notwithstanding the splint could not be carried, owing to the broken arm, as high as could have been wished.'

A more particular description of this apparatus, and of its application, follows, which, like every thing connected with surgery, coming from the same source, is entitled to the high consideration of the profession.

However effectual such an alteration of Hagedon's apparatus might be found, when its application should be patiently submitted to, it may admit of a doubt, whether it would fulfil one of his important indications, viz. that 'the apparatus must be as little irksome to the patient as possible.'

With due deference, I would suggest, whether the application of the splint to the fractured limb only, instead of the sound

limb, would not better obviate the objection, which Dr Gibson has discovered in this apparatus. This alteration would only change the apparatus from the lever of the first kind to that of the second. The splint should extend a little above the hip; and should it be insufficient to prevent the inclination of the body and pelvis, this might be effectually obviated, by passing a counter-extending band, as used by Desault, over the end of the splint, and the tuberosity of the ischium. This alteration, while it would not impair the simplicity of the original apparatus, would considerably increase its efficacy.

But it will, readily, be understood, that this apparatus, in either of its forms, cannot be used, when both limbs are fractured, when the unfractured limb has been shortened, by previous disease, or when either of the limbs is flexed, by disease of the joints, or any other cause.

In the 10th Number of the above Journal, Dr Gibson has recommended another apparatus for the permanent extension of a fractured femur. It consists of a triangular frame, presenting an inclined plane, on which both extremities are extended; the feet are confined to a foot-board; and counter-extension is made by the weight of the body.

Extension can undoubtedly be made, in this way, more effectually, than by the *double inclined plane*; but it may be doubted, whether 'the very principles of Pott are in a great measure preserved.' Some of the muscles of the limb are relaxed, but others are made more tense. In proportion as we flex the thigh on the body, while the leg is extended, we increase the distance between the origin and insertion of the flexor muscles of the leg,—particularly of the biceps, semitendinosus, and semimembranosus. This appears evident, by an inability to straighten the leg, while the thigh is flexed to a right angle with the body. Is it indispensable, for the security of the fracture, that the sound limb should be confined? For the comfort of the patient during confinement, and for the convenience of flexible joints afterwards, he should be allowed as much freedom of his body and sound limbs, as will not endanger the safety of the fracture.* It might be objected to this apparatus, that the feet are made a fixed point, and the weight of the body the removing power of

* Since writing the above I have been informed, that Dr. Goodhue, President of the Berkshire Medical Institution, has, for some years, practised a method something similar to the above. He confines the foot of the fractured limb only, to a foot-board fixed to the foot of the bed. The foot of the bed is raised, so as to produce sufficient counter-extension by the inclination of the body towards the head of the bed. No other means are used for the confinement of the fracture; yet he has the same uniform success in this method of treatment, which, in other branches of surgery, has so justly distinguished him.

extension. Can this power be conveniently graduated? If there be not sufficient extension, (or counter-extension) the superior fragment of the fracture would overlap the inferior, although the feet remained in the fixed position. 'On the other hand,' to use Dr. Gibson's objection to the double inclined plane, 'would it not sometimes happen, in large and heavy men, that, from too much force being exerted upon the superior fragment by the weight of the body, inordinate irritation would ensue?' This liability would be diminished, by the confinement of both limbs, but not entirely removed.

It is a happy circumstance, that the Doctor no longer implicitly follows a plan, in which he has had so discouraging success, but trusts more to his own ingenuity, which we have reason to believe will not often mislead him, or others. Indeed, that apparatus cannot, correctly, be considered but little better than none, which would justify one of his surgical talents, with so extensive hospital and private practice, in saying, 'so far as my experience goes, I am ready to declare, that I have never met with a single instance of the oblique fracture of the thigh bone, in which I have used the apparatus of Desault, (and until the last six months I have never used any other) that more or less ulceration of the perinæum and foot, and shortening of the limb, were not the consequence.'

As the ancient surgeons were not ignorant of the advantages of extension, in the treatment of fractures of the thigh bone, it is not unlikely, that so simple a method as suspending a weight from the limb to prevent its shortening, was one of the first, which was tried by them. But we have no history of such extension being made in connection with counter-extension, in such a manner as would promise success. It was stated by Desault, that 'a continued effort equal to 10 will soon perform what could not be effected by a temporary exertion equal to 100.' To permanently secure the advantages of this '*continued effort*' is the principal object, calculated to be effected by the apparatus which I am about to propose. But as we do not find, among the numerous contrivances, that have been put in practice for the permanent extension of a fractured femur, one, which does not fail to fulfil some important indication, I have not the vanity to expect, that mine, should it be honoured with a trial from other hands, will share any better fate than those which have been invented, tried, and laid aside. Believing it, however, to possess most of the qualities, from which we should expect success, without being myself able to discover any material objection to its use, I will leave the decision of its real merits to the better judgment and experience of others.

The apparatus is composed of a pulley on a staff, eight or ten inches long, to be screwed on the foot-piece of the bedstead; a garter for the ankle of leather or cloth, on the bottom of which are sewed four straps, to be tied about four inches from the foot; into the loop of which, a cord is to be tied, which, with a weight attached to the other end, is to be carried over the pulley; by which means extension is to be made in the direction of the axis of the limb. A counter-extending band, to be passed over the groin and ischium, and tied on the side midway between the spine of the ilium and shoulder; to this a strap is to be connected, to be tied to the head board; a waistband or bandage, to be buttoned or sewed on the pelvis, to which is to be connected a thigh-strap for one or both thighs, having some resemblance to the T bandage; to this waistband, on each side, is to be connected a bandage or tape to be tied to the side pieces of the bedstead.

It is well known, that the greatest inconvenience, in the various machinery for permanent extension, arises from the excoriation of the parts, to which the force of extension and counter-extension is applied. To avoid this, and to counteract the tendency of the body to push the superior fragment over the inferior, the foot of the bed is to be raised from four to eight inches, according to the extension necessary to be made. The groin and ischium is to be further defended from irritation by soft folds of cloth, over which the counter-extending band is applied. The ankle will be defended from this evil, by well quilted cotton battings, before the application of the garter.

When this apparatus is properly applied, splints will not be found indispensable; yet it would be well to use them of convenient length over proper compresses and cushions, also the many tailed bandage or bandage of strips. Thin pillows should be placed under the whole length of the limb, brought up on each side, and secured by tapes. To prevent the rotation of the limb by the pressure of the bed clothes, three pieces of board are to be made into the form of a cradle, without the bottom, and placed on the sides of the foot and leg, including the pillows and other compresses; a cleft must be sawed into the footpiece to admit the passage of the extending cord.

By this contrivance, extension is made in a simple, and at the same time a gradual and effectual manner, and from the greatest distance from the fracture; while the parts, on which the opposite forces act, are secured from irritation. Counter-extension is divided between the inclination of the body towards the head of the bed, and the counter-extending band; and this may be regulated to the inclination and comfort of the patient; not how-

ever to depend on one of these means alone, as the force of counter-extension by the operation of both, is more in the direction of the axis of the limb, than that of either alone would be; they also cooperate in preventing any injurious inclinations or motions of the body and pelvis. The side straps, or tapes with the waistband, will effectually prevent the lateral and rotatory motions of the pelvis; but they will not often be found necessary. The head and shoulders may be raised on pillows according to the pleasure of the patient. By a rope attached to the wall over his bed, he can raise his body with less disturbance to the fracture of the body of the os femoris, and the leg, than in the confinement of any other apparatus; for in raising and lowering the body a slight motion downwards and upwards are given to the extremities; but 'the continued effort' of the suspended weight to accommodate itself to this motion, prevents any overlappings of the fracture, or unnecessary extension.

In making the reduction, a small weight, in proportion to the age of the patient and the irritability of the injured parts, is to be suspended over the pulley; and this weight may be gradually increased, as the muscles become less disposed to react, till coaptation of the fracture takes place; during this time fomentation or friction may conveniently be applied to aid in producing this effect. When the inflammation of the muscles has subsided, and they, by their gradual extension, as Boyer observes, 'have no other tendency to shorten themselves, than that which arises from their elasticity,' the weight is to be diminished, leaving only enough to antagonize them; it would also add to the patient's comfort, when he lies without motion, occasionally to place under the weight some convenient support.

Last October, I made a trial of the operations of this apparatus. Nathan Walker, aged 12 years, by the upsetting of a cart, in which he was riding, received an oblique fracture of the thigh-bone near its middle. A reduction was made of the fracture, and the limb placed on the double inclined plane, according to the directions of Charles Bell. Inflammation and a gradual shortening of the limb soon followed. Repeated attempts were made, in the usual way, to effect the desired extension, but this produced so much pain in the leg, and uneasiness without effecting the object, that this apparatus was abandoned, when the thigh was found to have shortened nearly two inches. Fomentation being first used on the thigh and knee, the limb was extended; and the apparatus of the pulley was applied in the manner above described. The weight of four pounds was suspended on the first day; on the second it was increased to eight, when by a little more force being added to the cord, the limb was brought

to its natural length; on the third day the weight was reduced to six pounds, which was continued to the 26th of the fracture; at this time a reunion appeared to have taken place, and extension was discontinued. His limb was slightly flexed over pillows, in which situation, he remained eight days longer, when he was permitted to leave his bed. He rapidly recovered the use of his limbs without the least shortening or deformity.

In a few hours after the adjustment of this apparatus, the inflammation, and especially the pain which were before considerable, almost entirely subsided. This effect was, undoubtedly, produced by the removal of the cause of irritation in bringing and retaining the fragments of the fracture in apposition; and by the elevation of the limbs, *determining the blood to other parts.* This is the effect of the '*position,*' which Dr Gibson so justly advocates; he ascribes to Dr Physic 'the merit of having established it upon the firmest basis.'

Seven weeks since Mrs Underwood, aged 74 years, of infirm health, while walking or rather tottering a few steps from her bed, fell and fractured the neck of the thigh-bone. During the first week, the prospect of her recovery was not sufficient to justify any permanent extension of the limb. On the eighth day, I was induced to apply the above apparatus; which was done as in the above case, excepting the gaiter was composed of cloth and cotton battings well quilted. This was applied to the ankle and secured, over soft compresses of the latter material; the foot of the bed was raised so as to depend, for counter-extension, principally, on the weight of the body; and some additions were made to the machine, by which the extension could be more conveniently graduated. By these means the limb was kept sufficiently extended, without any injury to the parts, to which extension and counter extension were applied. But in consequence of her extreme emaciation, a considerable ulceration of her back and sacrum was discovered to have taken place on the 28th day; when, there being no prospect of a reunion of the fracture with her declining health, all means of extension were removed. Since that time, her limb has shortened above two inches, and the removal of the apparatus has made her situation but little more comfortable.

Although a cure could not be effected in this case by this apparatus, or any other, yet the experiment proves, that permanent extension may be effectually made by a proper application of the apparatus, in all cases, at least, where there are sufficient health and constitution to produce a consolidation of the fracture.

Jaffrey, N.H. May 29, 1824.

Case of Bronchotomy. By CALVIN JEWETT, M.D.

[Communicated for the New-England Journal of Medicine and Surgery.]

THE following case is not presented as being new, it having occurred frequently in the United States, and the operation has been successful, in most, if not in all cases, when recourse has been had to it in due season. Doctor Jameson remarks, in Vol. vi. of the American Medical Recorder, No. 1. Jan. 1823, that, 'though there is no subject about which surgical writers more universally agree, than they do, as to the safety, the propriety, and the necessity of Bronchotomy;' yet the want of ready surgical aid, the fear and misapprehension of parents and friends, relative to the danger of the operation; has consigned many to an early grave, whose lives might have been saved by Bronchotomy.

Hannah Bayley, aged 3 years, having several beans and pieces of beans in her hand, while her mother was passing a loose garment over her head received a part of a large case-knife bean into the trachea on the morning of the 23d March, 1824. Immediate symptoms of suffocation ensued, attended with violent coughing. The more violent symptoms soon subsided, and she became apparently well, and excepting slight irritation, which was sometimes manifest, and two paroxysms of coughing, her play or rest was little disturbed until the 25th. At twelve o'clock this day I first saw her; her pulse were 120 in a minute, hurried breathing, face bloated, a livid countenance, a peculiar wildness and anxiety of expression in the features; rattling in the trachea and lungs, coughing frequent and severe.

I informed the parents of my conviction that there was some foreign substance in the trachea or bronchia, and that there was no probable relief to be obtained but by an operation.

The parents, like many others were deceived by the quiet which had succeeded to the first violent symptoms; anxious to avoid the pain, and imaginary danger of Bronchotomy, they were willing to attribute the symptoms to worms, or lung fever, not conceiving it possible, how such intervals of perfect ease could comport with the fact of a foreign substance in the trachea. In the evening more restless, with very laborious respiration.

26th. Had a very restless night, yet slept some towards morning. At 9 o'clock A.M. the symptoms became more alarming, incessant coughing, hurried breathing, pulse 130.

I advised a consultation, and Doctor Bartlett of Haverhill, N.H. was called. We were of opinion that the operation offered

the only rational means of saving the life of the child, and that this probability was much lessened by the period which had elapsed since the accident; and consequent irritation which had taken place in the lungs, which might necessarily lead to a fatal issue although the exciting cause should now be removed.

The operation was performed in the usual manner by dividing the skin and cellular substance in the line of the trachea with a scalpel; the sterno-thyroides muscles were now exposed and pushed gently to each side, the trachea brought to view, though with some difficulty. (the more so, as the child had a Bronchocele of the largest size for one of her age, yet lawfully inheriting it from her mother.) An incision was now made downwards through the trachea and enlarged upwards so as to divide in part the cricoid cartilage. The air rushed out with much violence expelling blood and mucus, with great force, while the mouth and nose were closed by Dr Bartlett, to assist the expulsatory effort. It soon became necessary to change the posture of my patient to prevent too much blood from passing into the trachea; she was now placed, her face downwards, her head lowest. After a little rest was given, search was made in the trachea with the hope of dislodging the offending substance, that it might be expelled or removed through the artificial opening; but in this search we were unsuccessful. She endured the operation well, with very little struggling, and no crying; made repeated enquiries if I was about to bleed her, and what I was doing.

During the progress of the operation, an enlarged branch of the lower thyroideal vein was divided, which occasioned the loss of two or three ounces of blood; it not readily subsiding by compression was secured by ligature. Further search at this time being judged useless, superficial dressings were applied, and an anodyne directed in case of restlessness.

27th. Rested better than the night previous to the operation, directed the bowels to be evacuated, some cough, pulse 120.

28th. Considerable irritation of the lungs, pulse as yesterday, much thirst, cough troublesome, directed a solution of tart. ant. to be given once in two hours; epispastic to the chest.

29th. Same as yesterday, treatment the same.

30th. 5 O'clock P.M. was called in haste, being informed the symptoms were such as when she swallowed the beans. I found her symptoms such as justly to excite alarm, almost in a moribund state. I removed the dressings, separated the edges of the incision which was easily done, introduced into the trachea a firm silver wire doubled and curved so as to resemble in form a single blade of the forceps for obstetricks, this I moved

steadily both upwards to the larynx and downwards in the trachea, it produced much irritation, and the convulsive effort was much greater when passing the instrument upwards than downwards. In my search I was not sensible of meeting with any foreign substance, but immediately after I desisted from my examination, an alarming effort to cough succeeded, she involuntarily brought her hands over her mouth and nose, and at the same instant the piece of bean was forcibly thrown at some distance through the artificial opening in the trachea—the irritation soon abated.

On examining the bean it was found to be an equal part of one half of a bean of very large size, (known here by the name of the case-knife bean.) divested of its involucre.

31st. Slept tolerably last night—slight cough; countenance much improved since yesterday.

April 1st. Slept well last night, pulse 100.

At 12 o'clock the difficulty of breathing and cough became violent, I was called, and judging from the symptoms that some foreign substance still remained, with my instrument I again renewed my search, and on separating the edges of the incision in the trachea the envelope of the bean already removed was presented at the orifice and easily removed. She soon became quiet and slept.

2d. Rested well last night—some cough, directed 2 gr. pulv. ipecac., to be repeated if necessary, pulse 90.

3d. Slept well, cough less, appearance of the incision healthy; very little air escapes through the opening, and that only when she coughs.

6th. Is running about the house in good health, except she appears to suffer somewhat from debility. No emission of air through the artificial opening since the 3d.

8th. Since the 1st April, the dressings have been with adhesive straps, and the progress has been very rapid to recovery of health, and complete healing of the parts, leaving only a small cicatrix, and this deformity, will be more than compensated for, judging from present appearances, by the lessening, if not the entire removal of the Brouchocele.

Newbury, Vt. April 22, 1824.

Cases of Sore-throat and Fever. By E. HALE, Jr. M.D.

[Communicated for the New-England Journal of Medicine and Surgery.]

ON the 26th of March last, I was called to attend upon a lady who had fallen into the fire in a fainting fit and was severely

burned. The greatest injury was upon the right arm, especially the fore arm, although there were very serious burns elsewhere. In about a week when the sloughs began to separate, it appeared that the arteries of the hand and wrist partook of the injury; and they bled so profusely at several times, that amputation became necessary to avoid immediate death from the hemorrhage.

The arm was taken off near the shoulder, so as to remove as much as possible of the burnt surface. There was still left however, a considerable burn, on the top of the shoulder; a large one upon the back, one upon the face, so deep as that the slough which separated, extended down to the cheek bone; and two upon the scalp, in both of which the pericranium was laid bare for a considerable extent, and in one of them, that membrane itself suffered. In consequence of the exhaustion caused by the great loss of blood previous to the operation, and from the great extent of the injured surface, the sloughs separated very slowly. For the first few days, the wound of the stump appeared to heal remarkably well. A considerable portion of it united by the first intention; and the granulations in the remainder looked well. It then became nearly stationary, and afterwards as the general health declined, the adhesion and other granulations were absorbed, and the bone became bare. There was a good constitution, and for a time, there seemed some prospect that it might rise above all the injuries that pressed upon it. But the system gradually yielded, and after nearly six weeks of great suffering, the patient died. I do not go into a detail, either of the symptoms, nor of the treatment, because there was nothing very remarkable about them, and because it is not so much my object to relate this case itself, as to mention some of the effects which proceeded from it.

The quantity of matter discharged from such an extent of ulcerated surface, was of course, very great; and as the process of sloughing was still going on in some part of it nearly the whole time, the effluvia of the discharge was necessarily affected by it. Bark and charcoal were used to correct the foetor of the discharge, and other means were employed to counteract and destroy it in the room, but these measures were attended with but very imperfect success. The air of the room was still strongly impregnated by it, notwithstanding a careful ventilation; and the whole house seemed to partake in a degree of the effects of it. This odour was quite unlike that which proceeds from the decomposition of dead animal matter. It was indeed much like that which is generally produced by the discharge of an ill conditioned ulcer, except that the quantity of the discharge added to its intensity.

The state of health of the patient, as well as the extent of the injuries, necessarily rendered the operation of dressing slow and fatiguing. A part of the wounds were dressed twice a day; the remainder but once, except when particular circumstances required a second dressing. In these operations, and in the other attentions which the patient's situation demanded, I spent, for a month, on an average nearly or quite three hours a day in the room. During nearly all this time, my appetite was partially affected, and I was sensible to a peculiarly disagreeable taste in the mouth, particularly in the mucus expectorated from the lungs.

On the 25th of April, I was seized rather suddenly with a violent pain in the head, back and limbs, nausea, a total loss of appetite, rigors, and other symptoms of fever, accompanied by a soreness of the throat. By the use of cathartics and an antimonial emetic, these symptoms were so relieved that I walked out on the 30th, and on the first of May, resumed my attendance on my patients. This exertion was premature, however, and I was in consequence confined three days longer, the soreness of the throat continued through the week; the tongue was very much coated, the loss of appetite was complete, and was not entirely removed for several weeks after. The fever in this case was not so violent, although the pain in the head, &c. was at times severe. The pulse at no time was above a hundred, and was generally about 90 in the minute. I was confined, in all, about a week.

In the mean time my patient was attended very sedulously by my friend Dr H. She had been sinking rapidly for some time previously, and she continued to sink through the week until she died. The discharge from the ulcers, which had for a time been of a rather better character, had again become exceedingly offensive and oppressive. As she could lie only on the back with the shoulders much elevated, and could be moved only rarely, and with much difficulty, a large slough appeared on the sacrum, and now began to discharge. On the third of May, Dr H. dressed the stump for the last time. The powers of life were nearly exhausted, and the wound was in a very bad state. He was considerably affected by it at the time, and got through the dressing with difficulty. He was soon after seized with rigors, nausea, severe pain, and the other symptoms of an attack of fever; accompanied, with a soreness of the throat. He took a cathartic in the afternoon, and an emetic of ipecacuanha and calomel the next morning. These were followed by a light saline cathartic in an effervescing draught daily. The symptoms and course of the disease, for the first week,

were very similar to what they had been in my own case ; except that having a less vigorous constitution, the disease was more severe. The pain in the head was more fixed, and there was in every respect more fever, and the debility was greater. On the fifth day he came down stairs, and the sixth rode out a short distance ; but was then confined again.

The superficial ulceration in the fauces had disappeared, and the redness and soreness were diminished, though not wholly removed. But on the evening of the fifth day the soreness began to increase, particularly on the left side. The next day, the left tonsil and the adjacent parts were very much inflamed and swollen ; and through the afternoon and night the inflammation advanced rapidly, so as on the following morning (the seventh day of the disease) entirely to obstruct deglutition. The pain was excessive. The abscess was opened in the course of the day, and discharged freely ; and in another week he recovered, so as to go out, and resume his business.

On the 1st of May, two days before Dr H. was attacked, a grandson of the first patient, six or seven years of age, living in the house, was taken ill with sore throat, and fever. He had an emetic and cathartics and recovered in four or five days. On the same day also, a girl who had the care of a child in the family, fell sick, and did not entirely recover for three or four weeks. She had more soreness of the throat than either of the others except Dr H. the tonsils were much inflamed but did not ulcerate. Neither of these had been at all in the sick room.

On the 2d of May, a young woman from another family, who had watched with the first patient three nights before, was attacked in the same manner. She took an antimonial emetic very early, which was followed by cathartics, and recovered in three or four days ; except that the debility, which was considerable, lasted some time longer. On the 3d of May, a daughter, who was recently recovered from illness, and had been able to visit her mother only a few times, but had sat with her several hours, on the day previous, was seized rather violently with chills and sore throat, like the rest. She was treated in the same manner as in the last case, and recovered in a few days. Several others of the family had slight sore-throats, but were not made sick by them.

At the same time, a daughter who lived in the same house, and was very much with her mother, although she was rather feeble in health, entirely escaped the affection. The same was the case with a niece, who, although she had recently recovered from sickness, for a month, sat up with the patient nearly or quite the whole of every night, and was constantly in the

room during the day, except a few hours devoted to sleep, attending with the most assiduous care to all her wants, and assisted at every dressing; as well as with a coloured woman, who acted as assistant, and was almost always in the room through the day, and always assisted at the dressings. This is a forcible illustration of the fact which has often been noticed, that the human system by a constant exposure to any cause of disease, is able to resist its influence, while it yields to an occasional exposure of the same kind.

I do not feel disposed to add any thing by way of comment, to this statement. It ought, however, to be remarked, in connexion with it, that sore-throats, similar in most respects, to these have occurred in town with unusual frequency for several months past. I have met with them in several families, and in more than one instance almost every individual in the family has been affected in succession. But the disease has been of a mild character. The cases were generally less severe, particularly in the first attack, than those I have described in this paper.

Description of four native species of the Genus Cantharis. By
THADDEUS WILLIAM HARRIS, M.D.*

MODERN entomologists have restored the name of *CANTHARIS* to that genus of insects, the type of which is the *Cantharis* of commerce.

Of this genus there are several species, which are natives of the United States.† Three, of the four inhabiting New-

* This article was originally communicated for this Journal, but was first published in the Boston Journal of Science. ED.

† Thomas Say, Esq. of Philadelphia, a diligent and profound entomologist, informs me that the number of species, already discovered within the United States, is sixteen, viz.: *C. segmenta*, *Nuttallii*, *albida*, *articularis*, *immoculata*, *sphaericollis*, *maculata*, *ferruginea*, *reticulata*, *vittata*, *marginata*, *atrata*, *ænea*, *polita*, *cinerea*, and *Afzeliana*. A description of the nine first has been communicated, by Mr Say, to the Academy of Natural Sciences, and will appear in the Journal of the Academy; a work which has advanced the cause of Natural History, both at home and abroad; and which is greatly indebted to the labours and contributions of this gentleman.

Of these sixteen species the names of but five occur in the *Systema Eleutheratorum* of Fabricius; they are the four described in this paper, and *Lytta Afzeliana*, a native of Carolina. The remaining eleven are, probably, newly discovered insects; one only of which, *C. ænea*, is a native of Pennsylvania.

Mr Say observes that perhaps most, if not all, of these species might be used with success for the purpose of vesication. Some of them are larger than *C. vesicatoria*; and, among these, the finest, *C. Nuttallii*, a most brilliant insect, was once discovered in great quantities near the Rocky mountains.

England, and occasionally employed in medicine, have been frequently confounded under the general appellation of *potato-flies*, and have been incorrectly designated by a scientific name peculiar to one species only. Specific distinctions if not practically are scientifically important. A concise description of these four species will be given, by which they may be easily distinguished from each other, and a summary will be presented of such facts as have hitherto appeared respecting their history, and medical utility.

The insects of this genus deposit their eggs in the ground. The larvæ hatched from them have six legs, are soft-bodied, generally of a yellowish colour, and live upon various vegetable substances. When fully grown they change into the pupa, and, after a certain time, emerge from the earth in the perfect state. It is in this state only, that they are furnished with wings, and are capable of propagating their species. The males are usually smaller than the females.

The natural family CANTHARIDÆ contains eleven genera, including several insects in which epispastic properties have been detected. Among them are found the celebrated blistering fly of the ancients, *Myiabras cichorei*, which at this day holds a distinguished place in the materia medica of the Chinese, and another species of *Myiabras*, plentiful in India, and said to be quite as efficacious as the common Spanish fly. The existence of similar qualities in *Meloe proscarabæus* has been ascertained by some of our country physicians, and the fact is also noticed by Dr Bigelow, in his materia medica. Probably, many other insects in this family would be found useful in medicine; but those best known are *Cantharis vesicatoria*, and the species of the Fabrician genus *Lytta*, which are subjects of this paper.

The following is the systematic arrangement and definition of the genus *Cantharis*:

Order COLEOPTERA.

Section 2d. HETEROMERA. Four anterior tarsi five-jointed, hinder pair four-jointed.

Family CANTHARIDÆ. Latreille and Leach.

Head large, cordiform; neck distinct; mandibles not notched at their points: thorax almost quadrate, or cordiform: elytra flexible: tarsi generally with entire joints.

Stirps 3d. Antennæ longer than the thorax, composed of cylindric or obconic joints.

Genus CANTHARIS. Geoffroy, De Geer, Olivier, Lamarck, Latreille, and Leach. MELOE. Linné, LYTTA. Fabricius.

Elytra soft, elongate, linear, with the sides somewhat inflexed, the back convex, rounded. Maxillæ with two membranaceous laciniae, the external acute within, subuncinate. Antennæ with the first joint larger than the others; the second very short, transverse; the rest obconic; the last ovoid.

SPECIES 1.—*CANTHARIS VITTATA*. *Striped Cantharis*.

Elytra black, with a yellow fillet and margin.

Head light red, with two vertical spots and the antennæ black: thorax black, with three yellow lines: elytra (or wing case) black, with a central longitudinal fillet and the whole margin yellow: abdomen and legs black, and covered with a cinereous down. Length six lines.

Inhabits North America: upon the Potato. (*Solanum tuberosum*) eating and destroying the leaves.

As early as the year 1781 this American insect was described in Europe by Fabricius. It was not, however, brought into notice here until the accidental discovery of its medicinal properties by Dr Isaac Chapman, of Buck's county Pennsylvania. In 1797 he first employed it for the purpose of producing vesication, and published a description of it, with the results of his experiments, in the New-York Medical Repository. From this account it appears that, in seven cases, he employed successively all parts of these insects with the same results; and he considers them more certain as vesicatories than the cantharides of the shops.

The medicinal reputation of this insect soon reached Europe. In Illiger's *Magazin*, printed at Brunswick, in 1801, is an account of this and the species to be next described; the substance of which is, that, in America, the Potato suffers much from two beetles, *Lytta cinerea* and *vittata* of Fabricius; that these extremely common and noxious insects have been substituted with great success for the costly *cantharides*, and are said to vesicate more speedily, and with less pain, at the same time that they cause no strangury. The latter part of this statement is incorrect; it having been satisfactorily ascertained that, when externally applied, they are capable of exciting strangury; and that the same effects follow from their internal exhibition.

Cantharis vittata is found in the southern and middle states, and in Connecticut; but is a rare insect in Massachusetts.

AUTHORITIES AND SYNONYMS.

Cantharis vittata, OLIVIER, *Entomol. Vol. III. (Paris. 1795.)* No. 46. Pl. I. fig. 3.—PALLAS. *Icon. Tab. E. fig. 53.*

Lytta vittata. FABRICIUS. *Spec. Insec.* (Hamburg. 1781.) Vol. I. p. 329. n. 6 & *Entomol. Systemat.* Vol. I. Part 2. p. 86. n. 11. & *Systema Eleuth.* Vol. II. p. 79. n. 18.—GMELIN, *Systema Naturæ.* Vol. IV. p. 2014.—CHAPMAN, *New-York Med. Repos.* Vol. II. Edit. 2d, p. 163.—ILLIGER, *Magazin für Insectenkunde* (Brunswick. 1801.) I. 256.—KIRBY & SPENCE, *Introduc. Entom.* Vol. I. Edit. 3d. pp. 188 & 317.—GORHAM, *Med. Com. Mass. Med. Soc.* 3d Series. pp. 56, 57, 58.—BIGELOW, *Treatise on Mat. Med.* p. 112.—CHAPMAN, *N. Elements Therapeutics.* Vol. II.

SPECIES 2.—*CANTHARIS CINEREA.* Ash-coloured *Cantharis*.

Body black, covered with a cinereous down.

All parts of the body and elytra are entirely covered with an ashen-coloured down, extremely short and dense, concealing beneath it the black colour of the insect. The antennæ are black; the first and second joints, in the male, very large: male less than the female: resembles *C. vittata* in figure and magnitude.

Inhabits North America; feeds on the leaves of the Potato, English Bean, (*Vicia faba*) and Indigo weed (*Podalyria tinctoria*.)

This species of *Cantharis* is to us by far the most important, from its greater abundance and constancy of appearance; from the long experience the faculty have had of its efficacy; and from its having been the subject of a communication made to the Medical Society of Massachusetts by Dr John Gorham, in 1808. From this interesting communication we learn that, for several years previous, Dr Israel Allen of Sterling, Massachusetts, had successfully used as a vesicatory an insect found upon the Potato vine. Dr Gorham obtained a quantity of these insects and, by extensive experiments, established the characters which had been given them.

Dr Gorham's experiments prove, that the powder, externally applied, produces a more speedy and thorough vesication and a more abundant purulent secretion than the powder of *Cantharides*; and with the same specific action on the urinary organs; and that the internal exhibition of the powder and tincture is attended with the same effects as those which result from the administration of *Cantharides*.

It was sufficiently apparent, from Dr Gorham's description, that the insect in question could not be the striped potato-fly, *Cantharis vittata*.* Having applied to Dr Luther Allen of

* *Vittata*, striped, from *villa* a fillet or stripe.

Sterling, the brother of the late Dr Israel Allen, for information on the subject, I was politely furnished by him with both recent and old specimens of the insect; from an examination of which I was enabled to ascertain the species; which proved to be *Lytta cinerea*, of Fabricius, whose epispastic properties, as before mentioned, had been described by Illiger, in 1801. I also procured, from a respected physician and friend in Worcester, a parcel containing blistering cantharides of the same species, which were collected for medical use in that place. The ash coloured substance, which clothes the insect, like the down of the plum, is easily removed by attrition; and, in those which have been kept sometime, is scarcely visible, especially on the elytra.

Cantharis cinerea is common enough every year, in July and August, upon the English (Windsor) bean and the potato-vine. Its epispastic virtues have been known some years to an eminent physician in this vicinity, and, while with him, I had an opportunity of testing them by experiment, before I had ascertained its identity with the fly described by Dr Gorham.

About the first of August the perfect insect buried itself in the ground, and there deposited its eggs: these were hatched by the first of September. The head of the young larva is reddish; the body yellow, with three transverse black bands. I have not, as yet, been able to trace the progress of the larva to its metamorphosis into the pupa, and perfect insect.

Dr L. Allen furnished the following facts.—These insects are not constant in their appearance; but few having been seen since 1806.

They prevail only in dry seasons, on the Potato-vine, English bean, and Indigo-weed.

They retire for shelter to the ground during the night; are taken in the morning from 8 to 10 o'clock, by shaking them into a pan of vinegar. Vinegar thus impregnated, vesicated the hide of a horse.

If suffered to remain on the skin any considerable time after vesication they produce a deep eschar, destroying not only the cuticle but the cutis vera.

AUTHORITIES AND SYNONYMS.

Cantharis Sericea, OLIVIER. *Entomol. Vol. III. No. 46. Pl. 1. fig. 8.*

Lytta cinerea, FABRICIUS. *Entomol. System. Supplement p. 119. n. 13.*—& *Syst. Eleuth. Vol. II. p. 80. n. 20.*—ILLIGER, *Magazin. I. 256.*—KIRBY & SPENCE, *Introduc. to Entomol. Vol. I. p. 188 & 317.*

Potato Fly, GORHAM, *Med. Com. Mass. Med. Soc. 3d. Series.*
p. 59.

SPECIES III.—*CANTHARIS MARGINATA.* *Bordered Cantharis.*

Black, with the margins of the elytra ash coloured.

Head, thorax, and abdomen black, but nearly covered with an ash-coloured down: Elytra black, with the margin and suture ash-coloured: upper part of the abdomen, under the wings, marked with two longitudinal streaks of a bright clay colour. Nearly double the size of *C. vittata*, and unlike it in figure. Male less than the female.

Inhabits North America upon the *Clematis*; and is also found in Africa, at the Cape of Good Hope.

In 1799 Prof. Woodhouse, of Philadelphia, discovered this and the fourth species; and, having ascertained that they possessed vesicating powers, he made known this discovery to Dr Mitchell, by a letter, which was published in the third volume of the New York Medical Repository. The insect under consideration he proposed to call *Meloë clematidis*.* from its being particularly fond of several species of this plant. Fabricius, however, had previously described it, as a native of the Cape of Good Hope, by the name of *Lytta Marginata*. Dr Barton says that this insect is one of the most active species of American blistering flies; and that it feeds upon the leaves of *Clematis crispa*, and *C. viorna*. This observation led me to look for it upon *C. virginiana*, which grows in profusion on the banks of the Neponset; nor was I disappointed in the search; for, about the first of August, when the vine was in flower, I procured enough of these insects to enable me to make trial of their powers, which proved to be fully equal to those of any species of cantharis, hitherto employed for vesication.

A few were found feeding upon the leaves of *Ranunculus bulbosus*, and not in the vicinity of the *Clematis*; they therefore are not confined exclusively to the latter plant.

They resort mostly to such branches of the *Clematis* as trail upon the ground; seldom frequent the superior parts of the vine; are very shy, and, when disturbed, fall immediately from the leaves, and attempt to conceal themselves in the grass. Other species of this genus manifest the same timidity.

* Pallas gave this name to another insect found by him in Siberia.

AUTHORITIES AND SYNONYMS.

Cantharis marginata, OLIVIER. *Entomol. Vol. III. n. 46. pl. I. fig. 2.*

Meloë cinereus, antennis elytrisque atris, margine cinereis, FORSTER. *Nov. Spec. Centuria. p. 62. n. 62.*

Lytta marginata, FABRICIUS. *Spec. Insect. Vol. I. p. 329. n. 5.—& Ent. Syst. Vol. I. part 2. p. 85. n. 10.—& Systema Eleuth. Vol. II. p. 79. n. 16.—GMELIN. Syst. Naturæ. Vol. IV. p. 2014.—BARTON. Elements Botany. Part 3. p. 70. (1803.)*

Meloë clematidis, WOODHOUSE. *N. York Med. Repos. Vol. III. p. 203.*

SPECIES IV.—*CANTHARIS ATRATA. Black Cantharis.*

Entirely black, immaculate.

In general contour this species resembles *C. marginata*, but is not more than one-third as large; the female also, as in that species, much exceeds the male in size.

Inhabits Barbary; and, in North America, on the *Solidago*.

This, as before observed, was one of the native blistering flies described by Prof. Woodhouse in 1799. Melsheimer appears to be unacquainted with its vesicating properties, but alludes to those of the three former species of this genus.

This insect has received various names from different authors, and is described three several times, with as many distinct appellations, by Gmelin, in his edition of the *Systema Naturæ*. In Boston it is kept and sold for *Cantharis vittata*.

It is common every year on the golden-rod, *Solidago altissima*, sometimes on *Solidago lanceolata*; and, according to Prof. Woodhouse, on the Self-heal, *Prunella vulgaris*, and the stick-weed, *Ambrosia trifida*. Dr Thatcher informs me that it is found on the Potato-vine, in Plymouth country; from whence, I believe, the Boston apothecaries have been supplied. I have myself seen them, occasionally feeding on the Potato-vine.

This insect is the subject of a paper, in the New-England Journal of Medicine and Surgery, by Dr George Osgood, who employed it, both in tincture and substance, in more than forty cases, without failing to produce vesication in any instance. I have been satisfied with its efficacy as an epispastic, from experiments made with it. If further evidence be wanted in its favour, we have the strongest in its being substituted, from ig-

norance of the species, for *C. vittata*, without having either its virtues or identity questioned.

Its makes its appearance about the middle of August, when the *Solidago altissima* puts forth its blossoms, which are the favourite food of this species.

AUTHORITIES AND SYNONYMS.

Cantharis atrata, OLIVIER. *Entomol. Vol. III. No. 46. Pl. 2. fig. 19.*

Lytta atrata, FABRICIUS. *Entomol. Systemat. Vol. I. part 2. p. 86. n. 12.*—& *System. Eleuth. Vol. II. p. 79 n. 19.*—GMELIN, *System, Naturæ Vol. IV. p. 2014.*—MELSHEIMER, *Catalogue (1806) n. 1250.*—OSGOOD, *New-Eng. Journal Med. & Surg. Vol. X. p. 338.*

Lytta pennsylvanica, GMELIN. *Syst. Naturæ. Vol. IV. p. 2016.*

Meloe pennsylvanica, DE GEER. *Memoires. Vol. V. p. 16.*

n. 1 Pl. 13. fig. 1.—GMELIN, *Syst. Nat. Vol. IV. p. 2020.*

Meloe nigra, WOODHOUSE. *New-York Med. Repos. Vol. III. p. 203.*—CHAPMAN, *Elements of Therapeutics. Vol. II.*

Before concluding this paper, I would remark, that the white grain, which has been observed in the abdomen of these species of *Cantharides*, appears from an examination of the recent insect, to be composed of the abdominal viscera, spermatic vessels, and the ovaries. The eggs are very numerous, and nearly fill the body of the female. The fœcal matter is of the same colour as the food; yellow, from the blossoms of the golden-rod; and green, from the leaves of the potato, &c.

The blistering quality of these *Cantharides* probably depends upon a principle peculiar to themselves, the result of their organization, and not to be detected in the plants from which they draw their nourishment. The leaves of the potato, English bean, and Indigo weed, and the flowers of the golden-rod may be rubbed, and worn on the skin, any length of time, without producing the least inflammation: And, although the leaves of *Clematis crispa* and *viorna*, and of *Ranunculus bulbosus* are extremely acrid and irritating, *Cantharis marginata*, which feeds upon them, is equally as fond of those of *Clematis virginiana*, which are quite inert.

Milton, Jan. 1, 1824.

REVIEW.

ARTICLE VI.

A Treatise on Nervous Diseases. By JOHN COOKE, M.D. F.A.S. &c. 2 vols. Vol. I. *On Apoplexy, including Apoplexia Hydrocephalica, or Water in the Head; with an Introductory account of the opinions of ancient and modern Physiologists, respecting the nature and uses of the Nervous System.* Read at the College, as the Croonian Lectures of year 1819. London, 1820. pp. 469.

DR COOKE has published three volumes on nervous diseases; 'diseases which consist in, or depend upon, a more general affection of the powers of sensation and motion, particularly *Apoplexy, Palsy, and Epilepsy.*' The following extracts from the preface, will give the reader the leading object of the author in his present publication.

'It was the opinion of a late eminent physician, that more real service may be rendered to medicine by the illustration of what is already known on the subject, than by any attempts to promulgate new theories or new modes of practice.

'Impressed with the justice of this opinion, and the propriety of acting upon it, I have taken considerable pains in endeavouring to collect, to arrange, and to communicate, in plain clear language, a variety of useful observations from the best authors, both ancient and modern, respecting the principal diseases of the nervous system.

* * * 'After an experience in medicine of many years, I have ventured occasionally to introduce into this compilation my own opinions and practice, as well as to comment upon those of others; but I trust that in this I have betrayed no signs of dogmatism or self-confidence.'—pp. iii. iv.

Nearly a third of the present volume is taken up with an account of the nature and uses of the nervous system. A concise view is given of the history of the anatomy and physiology of this system from the earliest periods of medicine. This is a literary history, and brings into a short compass the prevailing opinions of the remotest and latest times. At the close a sketch is given of the various metaphysical doctrines which have at different times prevailed.

The first chapter proper gives the *definition*, and *history* of apoplexy. The plan laid down in the preface is here strictly adhered to. Much medical learning is collected within very narrow limits, and we are rapidly made acquainted with most that has been written on the matter. The following, from the manner in which it is announced, appears to be the author's definition of apoplexy.

‘Perhaps apoplexy may be thus defined:—It is a disease in which the animal functions are suspended, while the vital and natural functions continue: respiration being generally laborious, and frequently attended with stertor.’

This definition appears to us a very happy one. It is in no degree exclusive, which is more or less the character of most others, and it is so comprehensive as to include the peculiarities of the best.

In its attack apoplexy has some varieties. In some the precursory symptoms are evident, in others they are wanting. We are presented with instances of the former, in the predisposed who have not experienced an attack. In these the head is the seat of various sensations, and the general appearance is not what it is in perfect health. The sufferer may know more of this than his friends, and thus the attack may apparently be without any precursory symptoms. Of the latter, those furnish the most frequent instances, who have not only an apparent predisposition, but have already been attacked by this disease, it may be, in a very slight degree. In these a variety of circumstances become exciting causes, and without any sensible precursors we have a sudden and it may be a fatal fit produced.

‘In the fit the patient falls to the ground, and lies as if in a deep sleep, from which he cannot be roused. Boerhaave says, this disease is the true image of the most profound sleep, and compares it to that of a person exhausted by exercise or labour, from which he says it can scarcely be distinguished.’ p. 169.

In a note is the definition of Forestus, which has great strength.

‘Concidit subito, et repente magnaue ruina in terram prolapsus est: ad nullas voces, ad nullas inclamationes, nec ad quasvis collisiones expergiscebatur, tum gravis torpor eum, utpote attonitum, tenebat: quem nullis stimulis disenterere poterant adstantes.’

Forest. lib. x. Observ. lxxix.

Of the state of the respiration in apoplexy different accounts have been given.

‘In the perfect, or strong apoplexy, the respiration of the patient is generally much impeded; but although laborious, it is often, in the beginning of the paroxysm, slow and regular: in the middle,

and towards the end, when the disease terminates fatally, it becomes frequent, weak, and irregular. Galen considers the disease to be violent in proportion to the degree in which the breathing is injured; and that respiration, he says, is the worst of all which is intermittent and very laborious. Dr Cheyne says, the respiration is at first slow and heavy; then irregular, and sometimes convulsive: and at the last, interrupted. He adds, 'immediately before death the respiration is irregular, and is performed not oftener perhaps than three or four times in the minute.'

The different accounts of the respiration above referred to relate to the stertor in apoplexy. We have nothing to say on this subject in addition to the definition of apoplexy already quoted. That seems to contain the truth of the matter and unites the various opinions. We will quote one sentence:

'In all the cases of strong apoplexy which I have seen, the respiration, in the beginning of the paroxysm, was laborious, slow, and stertorous; and in those which proved fatal, this symptom, so far as I can recollect, remained, even where the breathing had become weak and irregular.' p. 171.

In strong apoplexy there is foam from the mouth, which in some cases is blown away with considerable force.

Respecting the pulse and skin, the following has been observed by Dr Cooke.

'As far as I have had an opportunity of observing, the pulse is at first regular, strong, full, and slow, beating from fifty-five to sixty-five times in a minute; but as the disease advances, it becomes weaker and more frequent; and in the end, irregular or intermittent.' p. 172.

'The face and the whole body are sometimes cold, and bedewed with clammy sweat; but more frequently the temperature of the skin is higher than natural, and is accompanied with copious perspiration.' p. 173.

Fever is considered by Dr Cooke as a very rare symptom.

'The eyes, in this disease, are described as being prominent, bloodshot, sometimes half open, but more frequently quite closed; the cornea dull and glassy; and the pupils dilated. In the generality of cases, the pupil of the eye is indeed more or less dilated; but sometimes it is greatly and permanently contracted. In some instances, I have seen the pupil contracted almost to a point, and a physician of eminence of my acquaintance, has likewise observed this appearance of the eyes in apoplexy: yet although all writers on this subject mention the dilated pupils, I do not find any one, (Aretæus among the ancients, and Dr Cheyne among the moderns excepted) who have noticed the contracted pupil in these cases.

'The teeth are often closely locked together; and deglutition is generally so much impeded, that fluids which have been forced into the mouth, return by the nostrils.

‘I believe the excretions are seldom altered.’

‘When apoplexy terminates fatally, as the disease proceeds, the abolition of sense and voluntary motion seems to become more complete, the respiration and pulse more weak and irregular, cold clammy sweats affect the face and whole body; the features shrink, and convulsions supervene, which terminate in death.’ pp. 173, 174, 175.

When speaking of the duration of the fit, Dr C. first speaks of cases of sudden death which he thinks are erroneously attributed to apoplexy.

‘Sudden deaths are very commonly ascribed to apoplectic seizure, but they probably depend upon some affection of the heart, or upon the rupture of some blood-vessel larger than those of the brain. Neither can cases of sudden extinction of the vital principle by the inhalation of carbonic acid gas, &c., be, I think, properly called cases of apoplexy. Genuine apoplexy, I believe, seldom destroys life in less than one or two hours.’ pp. 175, 176.

‘The paroxysm generally lasts from eight to twelve, twenty-four, or forty-eight hours; sometimes for a still longer period. Forestus relates a case of a woman seized with an apoplexy, which he calls *fortissima*, who lay in the fit for three days, and afterwards gradually recovered. When apoplexy does not prove fatal, it usually terminates in a greater or less degree of palsy; very frequently in the palsy of one side, which is called hemiplegia. Dr Baillie, in his morbid anatomy, observes, that when blood is effused into the substance of the brain, apoplexy is produced. When the patient is not cut off at once, but lives for some time after the attack, the hemiplegia, which is almost constantly an effect of this disease is upon the opposite side of the body from that of the brain, in which the effusion of blood has taken place. This would seem to show that the right side of the body derives its nervous influence from the left side of the brain, and the left side of the body, its nervous influence from the right side of the brain.* Dr Baillie, however tells me that he has sometimes, although rarely, seen the effusion of blood on the same side with the paralysis. The strong apoplexy almost always ends in death. Dr Kirkland says death, has invariably happened in every case I have known, or heard of, in the space of fifty years.† pp. 176, 177.

Dissections. In this chapter the appearances are related which have been noticed in those who have died of apoplexy. ‘These morbid appearances have been most frequently seen within the cranium. The chief of them are blood, serum, pus, hydatids, tumours of different kinds, organic lesions poly-pous concretions, ossification, and exostosis.’ It may be asked if one or more of these appearances is always to be noticed in

* Baillie, p. 460.

† Kirkland, p. 38.

the heads of those who have died from apoplexy? whether the disease may not have existed in its genuine form, though dissection should discover none of its ordinary attendants in the brain? Bonetus has such a case. The brain was sound throughout. The lungs were discoloured, and filled with a frothy ichor, Dr C. doubts the propriety of calling this disease apoplexy. The question is not to be settled by a single instance, and the reasonable doubt of the author leaves it very much where it was before. Mr Carlisle says that cases frequently occur, in which rupture or effusion are entirely wanting. Portal in his '*Resultats de l'ouverture des corps*,' remarks respecting apoplectic persons, says Dr. C. 'that their bodies preserve their heat for a long time after death; that this heat, in some cases, appears to be greater than during life; and that the limbs remain for a very long time flexible. He says that there is a fulness more or less considerable, in the blood-vessels of the brain, of the cerebellum, of the medulla oblongata, and often of the spinal marrow, with or without an effusion of blood into the cavity of the cranium, and of the vertebral canal, between their membranes, or in their ventricles, or in their substance; that there are effusions of serosity, of water, of albuminous and mucous matter, in greater or less quantity, and different proportions, almost always in conjunction with congestion or effusion of blood, that there are hydatids, encysted tumours, scirrhi, polypous concretions, fungosities, and false membranes; that there are ossifications of veins, of sinuses, of membranes, and sometimes of arteries;—exostoses, splinters of bones and malformations of the cranium diminishing in a greater or less degree its cavity. Frequently, he says, tumours and congestions have been found in the neck, in the breast, or in the abdomen; ossification in the thoracic and ventral aorta, as well as in the arteries of the superior or inferior extremities, in the superior vena cava, in the right ventricle and the valves of the heart, with many other alterations in that organ.'* pp. 187, 188.

This quotation from Portal appears to contain the more striking appearances noticed in the brain after death from apoplexy. He begins with the slightest change the organ may display, a mere fulness, more or less considerable, and proceeds from that to the most striking phenomena. It is very probable that the slighter changes, have been lost sight of, when great ones have been looked for, and the real cause of death overlooked, because there seemed nothing present, considerable

* Portal. p. 329.

enough in amount to account for the strong symptoms of the disease, and its sudden and fatal issue.

'The causes of apoplexy.'—These are considered under the general heads of predisposing and exciting causes; of these causes we shall do little more than give a list of such as are mentioned by the author. It is hardly necessary to remark, that concerning many of them, more or less diversity of opinion may be found in the works of different writers. The first predisposing cause named, is hereditary predisposition. 'Advanced age is said to predispose to apoplexy.' Hippocrates thinks it is chiefly generated betwixt the fortieth and sixtieth year. 'Great heat or cold predispose to this disease.' Dr Cheyne says that as far as his observation extends extreme warmth is the only quality of the season upon which it depends. In this opinion he is at variance with the great bulk of writers, who state that cold more strongly predisposes to apoplexy than heat. 'Persons of a plethoric habit, especially those who have short thick necks, and who indulge in eating and drinking, and sleep, are predisposed to this disease.' 'Some writers, among the predisposing causes of apoplexy mention a leucophlegmatic, pituitous, or dropsical habit.' Among these writers Portal may be mentioned.

The exciting or occasional causes. Some of these were mentioned when speaking of the appearances observed on dissection. Dr C. particularly mentions effusion of blood and serum as being among these; the other he regards as more properly belonging to remoter causes. Effusion of blood gives rise to what he terms strong apoplexy, that in which the attack is sudden, violent, and fatal. Serum from the circumstances under which it accumulates, produces a disease more gradual in its progress, and less violent in its symptoms. Effusion of blood may take place slowly and present us with the disease in a form similar to that which is produced by serum. Perhaps the slightest form of the disease, is that which is the consequence of slight congestion in the vessels or some of them in the brain.

In further prosecution of his subject, Dr C. comes to the question on what effusion of blood in the brain immediately depends. He ascribes it to great determinations of blood to the head, and notices very briefly however the objections of Dr Abercrombie, to that favourite doctrine of Parry. Dr Cooke is not convinced by the objections however, and proceeds to enumerate the circumstances which may occasion the determination in question, and which he regards as among the more distantly exciting causes of the disease.

‘Of these’ he remarks, ‘we have a great variety; such as violent passions of the mind, violent exercise of the body, fits of intemperance, excessive straining, long continued stooping, ligatures, tumours compressing blood-vessels, rarefaction of the fluids by sudden and great heat, congestions by excessive cold; and the suppression of evacuations to which the body has been accustomed.’ p. 210.

Dr Cooke after this enumeration treats of each of these causes at length, and gives ample illustrations of their modes of action and effects, from a multitude of authors. It is a part of the work which does not admit of analysis. It consists of pertinent facts, but so much condensed as to preclude further abridgment, and we have not space for the whole.

‘We have hitherto he remarks, spoken of apoplexy from pressure by blood, either accumulated or actually effused. An effusion of serum in too great a quantity in the brain may also, it is said, give occasion to apoplexy from pressure, of such an effusion there are many remote causes, and it is of practical consequence to remark, as will hereafter be explained, that several of the above-mentioned causes of an effusion of blood, may likewise occasion a morbid effusion of serum.’ p. 235.

Having now spoken of the causes of apoplexy which seem to act mechanically, or by pressure in producing the disease, others are enumerated and illustrated, which operate in a manner not universally agreed on.

Among these are named narcotics; certain vegetable poisons, alcohol, and other products of distillation; mephitic gases, deleterious fumes and vapours, &c. &c. The questions which have divided physicians and physiologists on these subjects are, whether they produce apoplexy properly so called, or carus or asphyxia, &c.; and on what organs their influence is immediately exerted.

The next distinct cause noticed, is the suppression of evacuations to which the body has been accustomed, especially of blood. The author then treats of symptomatic apoplexy. ‘The diseases of which it may be symptomatic are, fever, hysteria, epilepsy, diseases of the liver, and other abdominal viscera, dropsy, scurvy, small pox and other exanthemata, worms, rheumatism, and gout.’

The last of these diseases is first noticed in its connexion with apoplexy.

‘There is no disease,’ observes Dr C. ‘more frequently connected with apoplexy than gout. M. Portal relates three cases of gouty apoplexy, in which, on dissection, the usual appearances after the apoplexy were found. In the first a great quantity of liquid blood

was seen in the ventricles, and a clot of hard black blood in the cavity of the right hemisphere, which appeared to be the effect of an erosion of the cerebral substance; in the second water was discerned in the ventricles of the brain, and a large clot of black concrete blood in the right hemisphere accompanied by erosion; and in the third, which was the case of the celebrated Malpighi, in the cavity of the right ventricle of the brain, about two pounds of coagulated blood were found, the left ventricle contained about half an ounce of reddish water, in which were several gravelly concretions, the blood-vessels were preternaturally distended, and the dura mater adhered very firmly to the cranium. Malpighi died suddenly of apoplexy in the year 1604, and his head was examined by Baglivi, who considered the effusion of blood as the cause of the disease and of his death.' p. 245.

'In gouty or rheumatic translations to the head, however,' says Dr C. 'the true apoplexy, with stertor, is not, I believe, so often produced as a comatose or lethargic state.' p. 246.

Immediate or proximate cause of apoplexy. The following sentence at the close of the chapter contains the amount of what has been said on this subject.

'The opinion, however, that apoplexy is immediately caused by an obstruction of the passage of the nervous fluid into the organs of sense and motion has been the favourite hypothesis of physiologists, and seems, more satisfactorily than any other, to explain the manner in which the exciting causes act in producing the symptoms of the disease.' p. 251.

Distinctions. The leading distinctions of apoplexy are two, into the sanguineous and serous. Much diversity of opinion has been held on this matter. Some authors contend that there is an apoplexy marked by its peculiar symptoms, solely depending on effusions of blood into the brain. And that there is as well marked a form of the disease, equally distinguished by symptoms, period of life, &c. which depends on effusion of serum into the brain. Others deny all this, and none more strenuously than Dr Abercrombie. The following quotations deserve notice, 'the distinction betwixt the symptoms of sanguineous and serous apoplexy, has no foundation in experience or observation.' 'If by serous apoplexy,' says Dr A. in another place, 'we mean to express simply an apoplectic disease, in which on dissection, we find serous effusion, we express a fact, and the name is harmless. But if we mean a disease in which serous effusion takes place immediately, so as to be the direct cause of the apoplexy, we express not a fact, but a doctrine, and a doctrine which is extremely doubtful.' And again, 'in other parts of the body, serous effusion is seldom or never a primary disease. In the

abdomen we trace it to peritoneal inflammation or organic disease obstructing the venous circulation. In the thorax we trace it to pneumonic inflammation, or to other diseases of the lungs and of the heart. In the brain it is distinctly traced to inflammatory action, and it is *probable* that there also it may arise from obstructed circulation. In neither the thorax nor the abdomen do we meet with it as a primary disease, and it is not probable that it should occur as a primary disease in the brain. In other parts of the body serous effusion takes place slowly, and does not accumulate at once in such quantity as to induce urgent symptoms. It is therefore not probable that it should accumulate in the brain with such rapidity as to produce the symptoms of an apoplectic attack. The quantity of effused fluid bears no proportion to the degree of the apoplectic symptoms. We often find it in small quantity when the apoplectic symptoms have been strongly marked and long continued. We find it in large quantity when the symptoms have been much slighter. We find it in very considerable quantity when there have been no apoplectic symptoms at all. Finally, we observe all the symptoms strongly marked, which lead us to expect serous effusion, and yet we find none. Upon every principle of sound reasoning, these considerations should make us hesitate very much concerning the doctrine of serous apoplexy, and I think entitle us to consider serous effusion in these affections as one of the terminations of simple apoplexy. This affection, we have seen, may be fatal without effusion, and without any morbid appearance, and the cases which terminate in this manner cannot be distinguished in practice from those which terminate by effusion.' Dr Cooke does not differ from Dr A. in the opinions thus explicitly expressed by the latter. The only qualification he offers is merely conjectural, and amounts to this, that, if the distinction into serous and sanguineous be retained, the former must be considered as of very rare occurrence.

Diagnosis and prognosis. Apoplexy may be confounded with a fit of drunkenness, and epilepsy may be mistaken for it. We distinguish the former by the smell of the breath, and of the substances ejected from the stomach, and if we err in the diagnosis, the treatment of apoplexy will not be injurious in a fit of drunkenness. From epilepsy the disease may be distinguished by a slight attention to the symptoms. The first may be equally sudden in its attack with the last, and the abolition of sense, as perfect. But it is a convulsive disease, and the convulsions are of a very severe and obvious character. In apoplexy the patient is in a profound sleep with stertorous breathing, and the

body is at rest. The length of the fit in each differs, in epilepsy it is short; in apoplexy it commonly continues some hours. The author defers the further consideration of the diagnosis of these diseases till he treats of epilepsy. *Carus, lethargus, &c.* he considers as different degrees of apoplexy.

Prognosis. The opinion of Hippocrates that apoplexy in all its forms is a most unmanageable complaint, has been very generally adopted by succeeding writers. With the great mass therefore the prognosis is unfavourable. Dr Kirkland, when speaking of the vehement apoplexy, says, 'death has invariably happened in every case I have known or heard of for fifty years.' Mossman in the Medical and Physical Journal, says that he is inclined to believe 'that in all cases of convalescent apoplexy, there is no material rupture, but merely a turgescence of the vascular system.' This belief rests on the conviction that a sudden effusion of any large quantity of fluid upon the brain is incompatible with animal life.

Dr Cooke is disposed to take a different view of the subject, and though aware of the generally fatal tendency of apoplexy, does not think that even effusion of blood in the brain is necessarily mortal. He is supported in this opinion by the hitherto unpublished statements made to him by men of unquestionable skill, on the subject. 'I am informed' says Dr C. 'by Dr Baillie, Mr Astley Cooper, Mr Wilson, and other professional friends, that in many cases where persons had recovered from apoplexy, evident marks of effusion of blood have a long time afterwards been found in the brain. Mr Cooper has favoured me with a communication on this subject, in which he says, 'the dissections which I have made of cases of apoplexy, and extravasations of blood upon the brain from accident, have led me to the belief that effused blood never becomes absorbed, but that the brain gradually acquires the power of bearing its pressure, and that thus the symptoms which are produced at the first moments of general extravasation gradually diminish.'

'I will give you instances of these extravasations. My friend and pupil, Mr Saunders the oculist, had repeated slight apoplectic attacks for many months before his death, of which he apparently recovered; but at length he died from sudden and large extravasation of blood, into one of the ventricles of his brain. Upon examination of his head, besides the great extravasation above mentioned, several streaks of coagulated blood were found in the pons varolii, and in the cerebellum, the colour of which was so different from the recent extravasations, as clearly to indicate that they had been long effused. The other example is that of a gentleman who fell from his horse, struck his forehead vio-

lently, and was taken up comatose. He recovered from these symptoms, and appeared to be well, excepting that he had a slight defect in vision. Three months afterwards from improvident conduct, he brought on symptoms of inflammation of the brain of which he died; and upon examination of his head a large coagulum, which I have preserved, was found deeply embedded in the anterior lobe of the cerebrum, opposite to the part at which he had received the blow, and which had the colour of blood long retained in an aneurismal sac.'

Dr C. next mentions the symptoms which should influence the prognosis. He first speaks of the unfavourable. Quoting from Selle, the danger is in proportion to the degree in which the apoplexy exists. The more sudden the attack the greater is the danger. Among the unfavourable symptoms are vehement respiration with an equal intermitting pulse; intercepted or scarcely perceptible respiration; a respiration out of proportion sublime, according to Sauvages, with a depressed and unequal pulse; stertorous breathing and this especially when accompanied with abolition of the animal functions; foaming at the mouth; the pulse changing from slow, strong and full, to quick, weak, and intermitting, especially in conjunction with other unfavourable symptoms. 'Among the dangerous signs in apoplexy, says Dr C. 'many authors mention a dilated state of the pupil of the eye; but the contracted pupil, which I consider to be a still more dangerous appearance, has been scarcely noticed. I am of opinion that this ought to be reckoned among the very worst symptoms of the disease. I never knew a person recover from apoplexy when the pupil was greatly contracted. My opinion on this subject is confirmed by that of Sir Gilbert Blane and Dr Temple.' Among the dangerous symptoms may lastly be enumerated cold and profuse sweats. A very unfavourable prognostic, says Cheyne, is drawn from the patient putting his hand to his head.

The favourable signs are, a moderate degree of the disease; warm, gentle perspiration; hemorrhage, particularly from the nose and hemorrhoidal vessels; a free state of the bowels; accession of piles, menses, ptyalism, copious warm perspiration.

'Whether the accession of fever is to be considered salutary or not in apoplexy seems doubtful. Hippocrates, however, speaks positively in the affirmative, and M. Portal says, that observation has convinced him of the truth of the assertion. Hippocrates, speaking of apoplectic persons, says, if in these, fever come on, a solution of the disease takes place.' p. 282.

There is a difference of opinion as to the character of convulsions as influencing the prognosis. Portal thinks they are

not always mortal. Cheyne hold a different opinion. The length of the disease has affected the prognosis. M. Portal remarks, that if the disease in its severest forms last for more than a day it is generally incurable. If says Dr C. the strong apoplexy has continued for even half that time, I believe it almost always terminates in death. If the patient does not show symptoms of amendment soon after the employment of the most powerful means, a fatal termination of the disease may be expected.

‘If the pulse sink and intermit, if coldness of the extremities with cold clammy sweats come on, and the power of respiration greatly diminish, we may predict that dissolution is inevitable, and fast approaching.’ p. 284.

Treatment of apoplexy. Dr Cooke in pursuance of the main design of his work gives a sketch of the opinions of many writers on the subject of this chapter. We shall make a few extracts, which contain the views of the author as they have been derived from his own experience, and are supported by that of others.

‘Under this head,’ says Dr C. in the beginning of his chapter on the treatment of apoplexy, ‘I shall point out, first, the means to be employed when symptoms appear threatening an apoplectic attack; secondly, the mode of proceeding in the paroxysm of the disease; and lastly, the remedies to be used on recovery from the fit, with a view of preventing its return.’ p. 285. In the first, the precursory state, the greatest reliance is to be placed on bloodletting. Purging also should be employed. It is an important question, what influence advanced age, and a full constitution, should have on bloodletting. Much good seems to have been done in such cases by cupping the back of the neck or the temples.

‘In one case in particular, to which I was called,’ says the author, ‘the good effects of the abstraction of a large quantity of blood by cupping-glasses applied to the neck were immediate and very great. The patient was about seventy years of age, of a spare habit, and debilitated constitution. He was affected with vertigo, and pain in the head, confusion of mind, faltering in speech, and strabismus in a very great degree. As the blood flowed, all the symptoms gradually abated, and in a few hours entirely disappeared, and he completely recovered. The gradual return of correct vision in this case was very striking.’ p. 287.

Where the disease is established, and exists in its strong form, (this term is almost technical with the author) the best writers, it is well known, agree in the employment of bloodletting, both general and topical. The quantity to be taken away at once,

depends on the violence of the attack, and on the constitution or habit of the individual. Dr Cheyne says, two pounds of blood ought to be removed as soon as possible after the attack, and where this does no good, and the disease is decidedly fixed, a second, and even a third and large bleeding should follow. The author agrees with the majority, and supports the practice by abundant authority. He thinks very much of topical blood-letting; and observes that Aretæus, Valsalva, Morgagni and Cullen recommend, where, in apoplexy, we can discern a paralytic affection on one side, that blood should be drawn from the sound side, as the blood is thus more likely to flow freely.

Various modes of detracting blood are mentioned, as cupping, leeching, opening the temporal arteries, jugulars, &c. 'M. Portal mentions another mode of bleeding, which was proposed to the Academy of Sciences by M. Dejean, Professor of Medicine at Caen. It was that of opening the superior longitudinal sinus after having raised the bone which covers it. This physician, he says, proposed that mode of bloodletting, stating that he had employed it with the greatest success on dogs which had been strangled. M. Portal, and M. Tenon, however, who were appointed commissioners to examine M. Dejean's memoir on this subject, were of opinion, that bleeding from the jugular vein was to be preferred, as it would probably have produced the same effect more speedily. Besides, says M. Portal, we have not ascertained the method of stopping hemorrhage from the opening of sinuses.' p. 306.

In speaking of the more subordinate means to bloodletting in the treatment of apoplexy, Dr C. first names external stimulants, particularly those which are applied in various ways to the head, nose, &c. Among these are blisters, volatiles, stimulating tinctures, and others. The evidence does not seem to favour this plan of treatment. Blisters to the head have perhaps found most advocates, but as they interfere with another remedy, they have not been recommended by some highly respectable late writers. The remedy referred to is cold applied in various ways to the head. This has been much recommended. Cheyne in particular speaks of it as highly deserving confidence. He says if he were to use blisters, he should apply them to the back of the neck; and adds, that this application is often of signal service in relieving the headach, which attends febrile diseases. The class of remedies now spoken of have been applied to the *extremities* in apoplexy very generally, and it is believed with good effect. This use of them is recommended by the author.

Of internal remedies, purgatives hold the first rank. The inability to swallow which exists in the early stage of strong apo-

plexy presents for the time an insurmountable obstacle to the exhibition of purgatives by the mouth. Much good, however, may be done by glysters. A faithful use of these, when composed of such substances as are known to stimulate the large bowels, will frequently be followed by beneficial effects. Following as they should full bloodletting, some useful impression will be made on the system, and the patient with returning consciousness be capable of swallowing such medicine as may be next judged proper. The best remedies then are a full dose of calomel and jalap, followed by saline and other cathartics till the alimentary canal be duly evacuated.

The employment of emetics in apoplexy has been a fruitful subject for discussion. It happens in this as in similar cases, that excellent authority may be adduced on each side of the question. Dr C. has not settled this point, and it is probable that it does not admit of being settled. In the present state of medical opinion respecting them, they will occupy an inferior place on the scale of remedies in the treatment of apoplexy, and when we have bled and purged the patient without relief, the debateable ground of farther procedure will have been so narrowed, that it will really not frequently be very important what is done. It should however be distinctly mentioned here, that in apparently very desperate circumstances, and after the fair trial of less questionable means, an amendment has followed the use of emetics. The use of internal stimulants is not recommended by the author.

The above is a sketch of the treatment of strong apoplexy. Another form of the disease has been described by authors under the name of *serous* apoplexy. It is not worth while to discuss the merits of this distinction. It is highly probable that no such distinction exists; but it would seem that there are cases of apoplexy occasionally occurring, which want some of the strong characters of the more ordinary disease, and which have been best managed by a modified treatment.

‘When apoplexy,’ says Dr C. ‘occurs in old age, in leucophlegmatic temperaments, debilitated habits, and is attended with a pale countenance, a feeble pulse, &c. and comes on gradually, it is very generally denominated serous apoplexy, and is supposed by many to depend on an effusion of serum in the brain, and to require a mode of treatment very different from that above directed.’ p. 336.

In the treatment, the author discovers a becoming caution. Perhaps we might call an excess in caution, the prevailing feature of Dr C.’s work. But it is one to which the very nature of the inquiries strongly tempts the author. Dr C.’s work is the history of medical opinion on an important disease, especially on

the treatment of that disease, almost every new book gave him an authority or a motive for modifying in his own mind, what the immediately preceding work might have produced. He is quite cautious in the treatment of serous apoplexy, and uses italics lest he be misinterpreted. Dr C. has no rule of practice derived from personal observation in this apoplexy. We are to be governed by the whole circumstances of the cases. When apoplexy is mild, the treatment need not be violent. When the disease is decided in its characters, let it occur how, or at what age; or in what habit it may, the treatment must meet these, and failure should be as poor an argument against the correctness of the practice, as success should be for its propriety in the individual case, or for its general or exclusive application. The remainder of this chapter is occupied with the treatment of affections or states of the system, which resemble apoplexy. Among these are apoplectic symptoms produced by mephitic gases, narcotics, ardent spirit, suppressed evacuations, symptomatic apoplexy, apoplexy by metastasis, and from repelled cutaneous diseases. We do not observe any thing so peculiarly important as to deserve quoting, and we have no room for an analysis of the individual articles. Some very useful rules for preventing the return of apoplexy, and to prevent a first attack in the predisposed will be found at the end of the chapter. This, it will be recollected, is the third head of the divisions of this chapter. The means of prevention, including the above distinctions, are to be found in a strict attention to every thing which may have much effect on the individual. This includes diet, exercise, the state of the bowels, of the skin; the state of the mind, as affected by study, fatigue, &c. Every species of excess must be avoided, and health, or what is called so, may become excessive in these individuals. Too much blood, too much flesh, a too natural state of the bowels may all exist. Bleeding, abstinence, and occasional purgatives, may thus become most important prophylactics. Cases are given, where, from forgetfulness or indolence, these had been neglected, apoplexy has suddenly occurred and been fatal. In these cases many years of comfortable life had been pursued and enjoyed, by a regular employment of the above means.

While we cheerfully subscribe to the views of Dr C., we think it proper to make a passing remark on what seems to us an abuse of prevention, but which, however, we believe is not so prevalent at the present day as it has been. We refer to the practice of periodical bleeding, purging, or vomiting, which is recommended by some physicians, and adopted by some individuals, where there is no apparent predisposition to apoplexy, or

any other disease whatever. The most common season for this practice is the spring, and the pretence is to purge away the evils which have gradually accumulated in us for the past year, or to prepare ourselves for the conflict with those that await us in the future. The cessation of the catamenia is not unfrequently made an occasion for some treatment more or less powerful, with a view to prophylaxis. But when this cessation of a function, however important it may have been for a few years of the life of the individual, takes place naturally, after a gradual and healthy progress, the individual requires neither bloodletting nor purgatives. The whole circumstances in the physical character of the individual have been concerned in the change that has taken place, and we may produce disease by interference, where we have had none to cure. We have been somewhat annoyed by the calls that have been made upon us in these cases, for we have had to contend with medical authorities as well as the prejudices of the patient, and thus have either done what we have thought useless, if not injurious, or assumed a gratuitous responsibility, by no means desirable. If disease be present, or threatening, under these as under all other circumstances, the facts in the case must of course direct the practice.

In the seventh chapter Dr Cooke treats of lethargy, coma, carus, cataphora, &c. In the eighth and last of apoplexia hydrocephalica, or hydrocephalus internus. What we know of those contained in the seventh chapter, both as it regards the pathology and treatment, is very much derived from the old writers. The moderns, or many, consider them as more or less nearly allied to apoplexy, and the treatment of them when severe, is modified on that of this disease. The chapter on hydrocephalus contains an account of this disease, derived from the books which treat of it. Dr C.'s history derived from abundant sources is very full and able. He has been speaking of the diversities of opinion held concerning this affection, and goes on to say :

‘ Although it must be admitted that these symptoms have, in some cases, occurred independently of water in the brain,’ (referring to an opinion of Dr Abercrombie to this effect just quoted) ‘ and therefore cannot be considered as *demonstrative*, yet I think that they ought to be regarded as strongly *indicative* of its presence. From what I have read, and seen, I am of opinion that when, in addition to fever with vomiting and other symptoms of deranged stomach and bowels, we observe marks of uneasiness or pain in the head, drowsiness, morbid sensibility to light, and the hands placed round the head, there is strong reason to believe that water is actually effused in the brain. When the pulse, from being frequent and regular, becomes slow and irregular, when violent pain in the head, with screaming,

or a comatose state supervene, when the pupil of the eye becomes either preternaturally dilated, or contracted, with strabismus, the disease is still more manifest; but when the pulse, from having been slow, has again become very frequent, when the fever is very high, with flushings in the face, and inflamed eyes, when delirium in a great degree, or perfect stupor, with other symptoms mentioned towards the end of Dr Whytt's description, are present, I think there can be no doubt either of the nature or degree of the complaint!—pp. 431, 2, 3.

Respecting the treatment of hydrocephalus, especially of its early stage, an unusual uniformity of opinion prevails among medical writers. They all agree that purgative medicines are the best means to be then employed. Calomel always in combination with some active purgative, is to be given, till the bowels are freely and fully evacuated. Emetics are at times useful. Bloodletting, whether general or local, and particularly the last, may be had recourse to in cases of increased vascular action in the early period of the disease. Its repetition is not often indicated, and unless under peculiar circumstances of individual constitution it may even be dangerous. Blisters to the head or back of the neck, are very generally recommended. Dr Abercrombie is not satisfied of their efficacy, and advises that if used they should be applied to the nape of the neck, or back of the head, that we may have opportunity to employ to advantage a more powerful remedy,—cold, to the head. Dr A. says, 'in applying cold to the head in the most effectual manner, it should be done by a stream of cold water directed against the crown of the head, and continued for a considerable time, until the full effect of it be produced. Applied in this manner, it is a remedy of great power; it even requires, in many cases, to be used with discretion. Under its operation I have seen a very strong man thrown, in a very few minutes, into a state approaching to asphyxia, who, immediately before, was in the highest state of maniacal delirium, with morbid increase of strength, defeating every attempt of four strong men to restrain him.' Among other means, antimonials, certain nervines, digitalis, some narcotics, and mercury to affect the system, are mentioned. James' powder is said to have produced the happiest results in hydrocephalus. Its failure however is equally notorious. Numerous authorities are brought in support of the good which has followed the specific effects of mercury in this disease. It has been given in combination with diuretics, with alleged advantage. Dr Abercrombie says he has little reliance on mercury, and Dr Coindet of Geneva holds a similar doctrine. The author, from a very full examination of the whole ground, has this remark, 'On the whole the general opinion appears to be in favour of the use of mercury in hydroce-

phalus.' p. 465. The chapter and the volume are closed with a short account of Dr Vose's case, in which external hydrocephalus was cured by puncture. This case occurred in Liverpool, and may be found in the ninth volume of the Medico-Chirurgical Transactions.

ARTICLE VII.

Cases of Neuralgia Spasmodica, commonly termed Tic Douloureux, successfully treated. By BENJAMIN HUTCHINSON, Fellow of the Royal College of Surgeons of London, &c. &c. Second edition. *Illustrated with additional examples of the success attending the author's mode of managing this disease: and with a plate representing the distribution of the nerves of the face usually affected.*

Quidquid in arte meâ, possum promittere curæ

Quod fieri FERRO, liquidove potest electro.—*Virg. Æn. lib. viii.*

London, 1822. pp. 189.

THE object of this work is to state at full length the evidence in favour of Mr Hutchinson's practice of administering the carbonate of iron for the cure of tic douloureux. We have heretofore published some notice of the former edition of this book, and some accounts of cases treated upon the author's plan from the foreign periodical works; we intend, at present, by an analysis of the contents of this volume, to lay before our readers, a statement from Mr H. himself, of the evidence upon which he rests the proof of the success of his treatment of this formidable disease.

Mr Hutchinson, before entering upon a detail of his own cases, gives at some length an account of the leading symptoms, and of the means which have been usually employed for the relief of this complaint. There is scarcely any disease, which physicians have been more at a loss, to fit with a proper appellation than this; and a very good proof of this difficulty has been the fact, that in spite of all the names, good and bad, with which it has been endowed, it still retains, in all mouths, the original and old-fashioned one of tic douloureux. Even our author, who after enumerating most of the attempts which have been made at the nomenclature of this disorder, fixes upon '*Neuralgia faciei spasmodica*,' cannot avoid the influence of habit, and generally gives to it its old familiar appellation.

This complaint, according to Mr Hutchinson, is of more frequent occurrence than is generally supposed. He thinks it more owing to the carelessness and want of observation among physi-

cians that we are so little acquainted with it, than to the real infrequency of the disease itself. Many practitioners, he says, refer 'such pains to rheumatism, gout, toothach, &c. &c. To those, however, who have the slightest pretensions to just discrimination and accurate judgment, its symptoms are sufficiently marked and highly characteristic.' It is questionable at least whether as many cases of gout, toothach, &c. have not been mistaken for tic douloureux, as the opposite. Physicians, if we may so speak, have favourite diseases; diseases which they are fond of meeting, which they imagine they treat with more than ordinary skill, or for which they have some particular and infallible remedy. They are exceedingly apt to see the symptoms of such a disease in many cases where it does not really exist, or where there are only some very slight indications of its existence, and that in a very mild degree. Thus one physician will find a 'dyspepsia,' or an 'organic disease of the heart,' or an 'incipient phthisis' in patients, in whom another sees marks only of a slight bilious disorder, or disordered action of the heart from a nervous origin or a severe cold. But of such cases, we doubt not, are made up the long lists of dreadful diseases cured by particular physicians by remedies, which, in the hands of others who are more impartial judges, and less predisposed to find a severe disease in every trifling case, are found either inert or of trifling and only occasional efficacy. How else, but in some such way as this can we account for the remarkable effects which are now and then ascribed to new remedies by their discoverers—effects never realized by the rest of the profession—remedies which lose their reputation even during the lifetime of those who have brought them into notice! We intend not to doubt either the honesty or accuracy of Mr Hutchinson, but we must say, that while Dr Fothergill only met with sixteen cases, and other physicians of great eminence and in a London practice too, with not a great many more even in the course of a long life, we are obliged to believe that some portion at least of the two hundred cases which occurred to our author, during the interval between the two editions of his work—a period not exceeding two or three years—must have been of a very questionable nature, and *might* have been either 'rheumatism, gout or toothach.'

The description given by Mr H. of the local symptoms of tic douloureux is sufficiently full and clear, but his experience in this complaint might have been made far more valuable had he entered into some account of the contemporaneous and accompanying symptoms, that generally or occasionally attend upon it. It is undoubtedly true that in some instances tic douloureux is not strictly a local disease, but the consequence of a constitu-

tional disorder; that although the seat of the suffering may be in the nerves of the face, yet that the cause is to be found in some derangement of the general health. How often this happens is yet uncertain, and a more minute investigation into these particulars by our author would have thrown some light upon the pathology of the disease, and rendered his method of treatment less empirical than it is at present.

Mr H. does not think very highly of the success which has attended the various operations for dividing the nerves affected in cases of tic douloureux. Of these operations, successful and unsuccessful, he gives a very fair statement. We apprehend that the want of success in these operations may have been partly owing to the opinion that the simple division of the nerve is sufficient to destroy its functions. That the actual removal of a portion of the nerve affords the only chance for permanent success, would seem to follow from a fact stated in the account of some late experiments of Dr Philip on the influence of the nerves on digestion, viz. that the transmission of this influence is not wholly interrupted, even at the time, by the simple division of the nerves, but only by the turning back of the divided ends so as to prevent their coming into contact.

Mr Hutchinson alludes to the different methods which have been employed by different physicians in the treatment of tic douloureux. He speaks of the attempts with arsenic, with calomel and opium, with conium maculatum, blistering, bleeding, &c. &c.; but the conclusion with regard to all is, that either they do not succeed in alleviating the disease at all, or that relief when procured is uncertain and generally only temporary. It is to the carbonate of iron that he is of opinion we must look for the most effectual remedy in this complaint.

‘This preparation of iron,’ says he, ‘although in general use, has been hitherto very inefficiently administered in doses so minute as to preclude the possibility of much good effect being produced. I mean not to confine this observation to the management of the tic douloureux, but to extend it to every case in which it is imagined that iron is to be useful. In proper and efficient doses I hope to be able to demonstrate its valuable and highly curative powers.’ pp. 62, 63.

This demonstration consists in the relation at length of twenty-seven cases, which have fallen under our author’s immediate observation, or the details of which have been communicated to him upon good authority. Upon a subject of this kind, particularly where we do not yield entirely our faith to the results of an author, we deem it right to give a full and free statement of the evidence. We have prepared, therefore, an analysis of all these

cases, comprising the most important points relating to each, in as small a compass as possible. In this account of the cases we shall endeavour to state with precision, where the materials are afforded us in the details themselves, the following circumstances, which we consider as of principal importance in making up a judgment, viz. how long the patient had been subject to the disease, what remedies he had tried, the doses of carb. of iron administered, their frequency, the length of time during which they were continued, the total quantity taken before relief, the other remedies made use of at the same time, and the degree of relief. In addition to these particulars it is important to know the length of time which has elapsed from the occurrence, to the report of the case; in what cases the disease has returned after being once subdued, and how soon; and whether relief was again produced by the use of the same medicine.

CASE I. Jane Smith had suffered from the disorder twenty years. Dose of the carb. 3j twice every day. The relief was almost entire, and there had been no return. Five years had elapsed from the first trial of the medicine.

II. Henry Jervis—case of a year and a half standing; had tried opium and conium externally, and remedies for the gout. Dose of iron 3j twice a day, for some months, 'with the greatest advantage.' Five years had elapsed. Relief not entire; there have been occasional 'remembrances' of the disorder for which the patient has had recourse to the iron with relief.

III. Sarah Rayner was relieved for seven or eight months by a salivation from the use of calomel opium and conium. On a second attack, salivation and arsenic without relief. Dose of iron 3ss three times a day for seven days; 3j twice a day for three days; ℥jv twice a day for ten weeks; in the whole about twenty-five ounces. Cure complete.

IV. Samuel Hage. Carb. of iron 3j twice per day for sixteen days; ℥jv for fourteen, with removal of pain. Return of symptoms after three weeks, when a second course of a month procured permanent relief. Whole quantity in each course about eight ounces.

V. Jane Brown. Seven months. Tried first, carb. of iron in small doses, calomel, conium maculatum and arsenic, sulphate of zinc, nitrate of silver and extract of henbane. She then took carb. of iron in doses of ℥jv for a little more than a month, and was completely cured. Whole quantity about 11½ ounces.

VI. James Key, preceded by an attack of apoplexy and paralysis. Had taken narcotics and purgatives, with blisters and a seton. Carb. of iron 3j twice per day with an ointment, of anti-

mony, opium and strong mercurial ointment rubbed into the cheek. After three weeks, dose $\mathfrak{z}\mathfrak{j}$, which was continued eight weeks; relief was found at the end of five. Whole quantity 24 ounces.

VII. Sir R. J. A. K. Four years. Had found great temporary relief from Mr Abernethy's course of treatment. Had tried the narcotics. Relieved by the iron in ten days, and his general health at the same time much improved.

VIII. Mrs Vicars. Four years. Treatment addressed to the digestive organs, leeches and blisters had produced some alleviation. Carb. of iron $\mathfrak{3}\mathfrak{j}$ three times per day for several weeks. Complete relief from pain, and restoration of the general health and digestion which had been much impaired.

IX. Thomas Wanstale. Three months. Carb. of iron $\mathfrak{z}\mathfrak{j}$ every three hours; procured relief in ten days.

X. Mr Todd. A year and a half. Carb. of iron $\mathfrak{3}\mathfrak{j}$ three times a day, and the antimonial ointment to the cheek. In nine weeks a complete removal of the pain was effected. Whole quantity about 23 ounces.

XI. Thomas Neep. Ten years. Carb. of iron $\mathfrak{3}\mathfrak{j}$ twice a day for five weeks with the antimonial ointment. He then took $\mathfrak{z}\mathfrak{j}$ three times a day for three months with great but not entire relief. Whole quantity above fifty ounces. Three months after reporting this case, there was a return of the disease, and the patient refusing to resume the use of the iron, the pain continued to afflict him.

XII. Jeffery Dennis. Four years. Carb. of iron $\mathfrak{z}\mathfrak{v}\mathfrak{i}\mathfrak{j}$ twice a day for six months. Whole quantity more than a hundred ounces.

XIII. Relieved, after the failure of bark, arsenic and narcotics, by a three weeks course of the carbonate.

XIV. Miss B. The pain in this case affected the left side, but appeared to be of the same nature with tic douloureux. It was accompanied by debility, loss of appetite, fever and watchfulness, and had existed two years. Commenced with the carbonate of iron $\mathfrak{3}\mathfrak{j}$ three times per day, and continued it in this quantity for six months—then for some time the same dose twice a day, and afterwards once. Felt partial relief in six weeks, and complete in four months. Case reported ten months after beginning the use of the medicine; but the patient appears to have continued to take it in small doses to the time of the report. Whole quantity before relief about forty-five ounces.

XV. Mr Overton, two years. Cured by the carbonate in ten days, and remained well at the end of two months.

XVI. Mrs J. In this case the disease affected the mammæ, had existed for a long time, and was deemed scirrhus. The carbonate in one fortnight removed the disorder; it returned again in a month, but was again subdued by a recourse to the same medicine.

XVII. Mrs Jones. Seven years. The disease affected the cutaneous nerves of the outside of the thigh and leg, and the sole of the foot. The nerves had been divided between the ankle and heel, in the sole of the foot, and in the calf of the leg without relief. Carb. of iron 3ss twice a day for four months; at which time the report was made. In six weeks the pain was mitigated; and in two months she was well. General health, strength and flesh much improved. Whole quantity taken fifteen ounces.

XVIII. L. Houston. A case of headach of five years standing, with derangement of the digestive organs. Carbonate of iron 3j three times per day, with some tonic and aperient medicines. In two months great relief of headach and amendment of the general health. Quantity taken about twenty-two ounces. Disorder returned, and although again relieved by the iron, continued troublesome.

XIX. ———. Relieved by carbonate of iron in a few days. Returned in the course of a few months, and was again removed by taking five ounces of the same preparation, in doses of from two to four scruples three times a day.

XX. Mrs H. Carbonate of iron in doses of 3ss every four hours, and gradually increased to 3j at a dose. Cured in the course of three months.

XXI. Mrs J. had been affected in 1814 and 1818 and relieved by bark, ammonia, and the extracts of hemlock and henbane. Attacked again in 1821, and took the carbonate of iron ʒj every three hours for three weeks with complete relief, and in a much shorter time than in her previous attacks. Whole quantity seven ounces.

XXII. A female afflicted with great pain in the course of the left sciatic nerve extending down the thigh. She had suffered it for some time, and was confined to her bed. She was relieved completely by the use of the carbonate of iron, in doses of ʒij three times a day for two or three weeks.

XXIII. This was the case of a man attacked suddenly with severe pains of the head and face, which left him after taking an ounce of carbonate of iron in dram doses, three times a day. This seems to have no claim to be considered as a case of tic douloureux.

XXIV. Mrs Savile. A mild case which had existed for some time. Relieved by large doses of the carbonate of iron.

XXV. Four months. Had been bled, blistered, leeches and purged. Took 3ss of the iron three times a day for seven weeks, and was completely cured. No recurrence at the end of three months. Whole quantity about nine ounces.

XXVI. Thomas Kilday, two years. Two scruples of carbonate of iron, afterwards 3j three times a day, gave him considerable relief at the end of three weeks.

XXVII. Mrs Yeats, wife of Dr Yeats. This case had not terminated at the time this edition of Mr H.'s work was published. The pain in this case was situated in the sciatic and tibial nerves of the right limb. The carbonate of iron in doses of from 3ss to 3j three times a day had made a decidedly favourable effect upon her complaint at the time of the report.

Our readers may deem this detail of cases somewhat tedious, but as it is upon the cases that the value of the book entirely depends, and as they afford the only fair ground upon which to judge of the claims of this remedy to the encomiums lavished upon it by Mr Hutchinson, we thought there could be no better way of enabling every one to form his own judgment, particularly as the work itself is in the hands of very few persons in this country. It will be observed that a considerable proportion of the cases are not full in the statement of the most important circumstances; they are particularly deficient in stating at what length of time after the occurrence of the case the report was made; but to judge from the manner in which they are many of them related, it would seem probable that a very considerable number were reported soon after their occurrence, without any account of their situation at a subsequent period. No notice is taken of the history of any cases related in the first edition, during the period which elapsed before the second. They are given as they stood in that edition, without note or comment; though it would have been useful to have inquired, and desirable to have known, what had been the course of those cases during that time.

It is to be remarked of these twenty-seven cases, that only eleven of them occurred in the practice of Mr Hutchinson himself. The remaining sixteen were furnished him by almost as many different individuals. This is unfortunate and injudicious. Mr Hutchinson must have had ample materials in the two hundred cases which have come under his observation to have furnished an abundance out of his own store-house. The objection to this preference of the cases furnished by others, arises from the probability, nay, from the moral certainty, that individuals communicating the results of their practice in this way will report *only* or *principally* successful results. Practitioners, in general, when they communicate cases as matters of medi-

cal evidence to the public do not seem to be aware of the value of unsuccessful ones. It is just as important that every unsuccessful case should be reported as that every successful one should be. The object is to get at the real value of the remedy or mode of treatment in question, and this can no more be estimated from the selection of the most fortunate cases, than one could judge of the mortality of a disease by confining his attention to the fatal ones. Had Mr H. taken any fifty cases of Tic Douloureux as they succeeded one another in his practice, and given us the results of his treatment, whether fortunate or unfortunate, we might fairly draw some conclusions with regard to the value of carbonate of iron as a remedy. But when we have only eleven instances of his own patients—while he speaks of ‘more than two hundred’ which have fallen under his observation in the space of two or three years, but of which he gives no details, scarcely hints indeed at the result and then adds to them sixteen communicated by his friends—one is constrained to say he does justice neither to himself nor the remedy in question. In transmitting cases to Mr Hutchinson for publication, the natural feelings of every man both for himself and for his friend, who was sanguine in the belief of the efficacy of a new remedy, would lead him to shut his eyes upon an unsuccessful and fix them upon a strikingly successful case. We are all more impressed by our successes than by our failures in the use of medicine. A failure we attribute to the badness of the case, the adverse circumstances under which it was treated, the broken constitution of the patient the presence or supervening of some other disease, &c. &c. in short, we make up our minds that it was not a fair trial of our medicine and we very soon forget it entirely. It is entirely different where the result is fortunate. The gratitude of our patient, the pleasure of success, and our natural credulity lead us to attach much importance to it. We are more fond of thinking of it and speaking of it, and consequently are more ready to publish it, from the impression that it reflects a degree of credit upon ourselves. This consideration would lead us to attach very little importance, to any of the evidence adduced by Mr H. except that which he has derived from his own experience, notwithstanding the respectable names which appear in connexion with it. Not that we discredit the statements made, on the contrary we believe every word of them; but because from the causes at which we have hinted, and from the very nature of medical evidence, the same testimony might be collected in support of any sort of practice, all sorts of practice, or no practice at all.

In answer to the call of a French reviewer in the 'Journal General de Medecine,' for an account of his unsuccessful cases, Mr H. makes the following remarks.

'Had I advanced the bold and untenable assertion, that the carbonate of iron acted as a never failing specific in this disease, that it never disappointed us in curing the most obstinate case of *Tic douloureux*, or that the malady of thirty years continuance was equally amenable to its influence as that of only three weeks or three months duration, I might probably have merited this very slight reproof. A professional experience of nearly thirty years, however, has taught me not to place implicit confidence in the curative and specific agency of any remedy at present known. The carbonate of iron has, in a few instances under my own cognizance, been inadequate to the difficult task of curing the *Tic douloureux*; an acknowledgment of which is sufficiently manifest in two or three of the preceding cases, as well as in a few others which I have not published. I can, however, assert, that in those very few instances, it has done more towards alleviation than any other known remedy. The carbonate of iron has very frequently been given in very improper cases, and in the most injudicious manner, without any due consideration of peculiarities of constitution, or of the proximate cause of the disease; circumstances essentially requisite to be attended to in the administration of a powerfully stimulant remedy. In the very few unsuccessful cases under my own management, I can almost uniformly attribute the want of success, rather to the absence of a due perseverance in the use of the remedy than to any failure in its power. It ought also to be perfectly understood, that collateral means of relief have uniformly been used in conjunction with the iron, and that the treatment is by no means confined to one remedy. Where symptoms of active inflammation have existed, the means usually employed to subdue inflammation have been had recourse to, and the iron either suspended or never used. I have of late been consulted by many persons, under the injudicious use of iron, when high inflammatory action has existed in the nerves particularly affected, and when the neighbouring parts and the general constitution have sympathized with the augmented arterial impulse. To my intelligent readers it is needless for me to explain the results of a practice founded on a complete ignorance of all medical principles.' pp. 183, 184, 185, 186.

Now this is very well, but really contains no good reason why Mr Hutchinson should withhold his unsuccessful cases. A general admission that such cases exist is not enough. He would have done better to have given them, or a fair proportion of

them, in detail. It is obvious from his own language that he feels that sort of disposition, of which we have just spoken, to attribute failures to any thing but a want of efficacy in the remedy. This disposition is very manifest from several passages in the remarks we have quoted. It is a natural feeling, and one which few men, under the same circumstances, could probably avoid. But still we must take it into consideration in weighing the evidence, and allow for it. Had Mr Hutchinson instead of selecting eleven cases from his practice (for under such circumstances every man would *select* the best cases,) given a statement of all which he had ever treated with carbonate of iron, noticing only the really important facts of each, and the result whether favourable or unfavourable, we might have come at some definite and satisfactory conclusion with regard to the merits of his remedy. As it is we have only twenty-seven cases, and of these, sixteen, as has been remarked, we conceive to have little value as evidence.

One is more disposed to find fault with the paucity of cases in this work, from the manner in which those presented to its readers, are described. Nearly an hundred and twenty pages are consumed in the narration of the cases and still many of them are deficient in the relation of pretty important particulars. The great length to which they extend is sometimes owing to the injudicious introduction of letters, not always the most edifying, from the patients who have been cured by Mr Hutchinson. The object of relating a case in the words of the patient himself is no doubt, that the clearest description of it may be given. But we think it will happen, unless the narrator be an uncommonly intelligent person, that his description will be far less satisfactory than that of his physician. None but a physician can know, what the important points in a case are, or can describe them in such language as shall be intelligible. A person not of the profession lays stress upon symptoms which are of no importance, and passes by others which are perhaps of very great. He sees only the surface of things and can neither understand the intention, or describe the effects of a remedy.

As an example of the accuracy and definiteness, as well as elegance, with which some of Mr Hutchinson's correspondents describe their cases we make the following extract.

'It sometimes commences with a slight *coruscation* or *ticking*, somewhat similar to that of a pendulum, whence it may probably derive its name, being a disease more known in France than in England. It is afterwards succeeded by a shock more violent than that of an electrical machine, but of much longer duration. A *red-hot salamander laid upon the head*, may afford some resemblance of the

effect it sometimes produces. At other times, it may convey some idea of the operation of an incision knife, or tomahawk, the lancets of a cupping knife being nothing compared to it. Sometimes you may imagine *minute guns passing through the head* for a considerable length of time. The patient may at other times suppose *his head to be laid open with a battle axe, and the brain exposed to a dreadful north-eastern blast.*' pp. 72, 73.

But the literary faults or even the indications of a book making spirit contained in this volume are of small importance if it contain evidence to convince us of the value of the remedy which it is intended to recommend. We have read it carefully and we believe candidly, and with no greater degree of incredulity than we imagine every physician ought. We have read it in full recollection of the history of conium, digitalis, and prussic acid, and are therefore by no means so sanguine in the belief of the efficacy of this medicine as Mr H. appears to be.

Still we confess that upon the whole Mr H. makes out a pretty strong case. There is a good deal of testimony both in this book and elsewhere, in favour of the efficacy of carbonate of iron; more we think than for any other one method of treatment which has been proposed. It is probable that it will prove a more valuable remedy than any other one article which we possess, and will perhaps relieve as many cases as all others united. Still, so far, we have not sufficient facts to form a satisfactory conclusion. The present work affords only *ex parte* evidence, and though we have perfect faith in Mr Hutchinson's honesty and good intentions, we conceive that he feels at present too great a partiality for this remedy, the use of which he has originated, to be able to give a perfectly impartial account of it.

The great evil of extolling a remedy very highly on its first introduction, is that when it is once found not to equal the promises of its friends, a reaction takes place, and it falls into unmerited neglect. Medical history is full of such cases. Now as carbonate of iron really promises to be a remedy of value in tic douloureux, it is desirable that it should be fairly tried and its actual worth determined now. There is perhaps none, which is so well worthy trial in this disease, and physicians would do a service who should administer it and report *all* their trials to the public. Mr H. does not point out exactly what cases are proper for its exhibition, though he speaks of some which are not. To judge from the account of the cases themselves we should say that in the greater number of them, there were indications of disorder in the digestive organs, and that it was probable,

that the carbonate of iron would be efficacious in such cases particularly.

In entering into this examination of the evidence contained in this work, our only object and hope has been to prevent ourselves and others from running away with the idea that we have at least a remedy which will cure tic douloureux infallibly. Even Mr H., sanguine as he is, has no idea that his medicine is a specific or is suited to all cases. To do him justice, he expressly disclaims it. Yet that he is far too sanguine, we firmly believe. We will in conclusion quote a few lines from a letter of Sir Astley Cooper to Mr Hutchinson, which appears to us to be expressed with a caution indicating an opinion that the carbonate practice is yet upon trial. His guarded language is strongly contrasted with the eulogiums showered upon it from other quarters and from reporters of single cases only. 'In the few cases,' says he, 'in which I have had an opportunity of trying the carbonate of iron as a remedy in tic douloureux, I have reason to believe that it has a very benign influence in that disorder.'

ARTICLE VIII.

An Examination of Essays on Fevers, and other Medical Subjects, by THOMAS MINER, M.D. and WILLIAM TULLY, M.D. with some observations on their Doctrines and Practice. By J. L. COMSTOCK, M.D. Hartford, 1824. pp. 64.

WE presume that our readers have little inclination to enter any further into the controversy concerning the work of Drs Miner and Tully, than they were carried in our notice of the subject in a former number of this Journal. We have as yet found no reason for changing the opinions which were there pritty fully expressed, with regard to the nature and character of the work. The publication put forth by these gentlemen in answer to that review and also to an article contained in a highly respectable contemporary journal, which they did us the undeserved honour of attributing to ourselves, on account probably of its possessing at least, one similar characteristic, a little too much home truth, we have read with the attention which it demanded. But we did not perceive that any new light was thrown upon the medical subjects discussed in their former work, whilst it displayed the same qualities of temper and the same spirit towards their professional brethren. We were obliged to encounter the same iteration prattle about diathesis, type, stage, crisis, pulse, indications, experience, counteracting and coinciding agents, calomel and opi-

um, capsicum, &c. &c. &c. the same unfounded tirade against antiphlogistic practice and sthenic practitioners, the same expressions of horror about those mighty means of mischief, bleeding, antimony, nitre, cream of tartar, vegetable acid, &c. the same zeal in extolling those safe and innocent agents, brandy, arsenic, capsicum, opium, conium, stramonium, prussic acid, &c. and the same reiterated charges against other physicians either, direct or indirect, of pursuing from bad motives a practice in diseases which they know to be injurious.

We should not again have alluded to this unpleasant subject except for the purpose of noticing the excellent pamphlet of Dr Comstock which is before us. His object has been merely to examine the medical opinions advanced and facts asserted in the volume of essays, without reference to the spirit and temper which they display. This task he has performed with a good deal of skill and acuteness, and with a degree of moderation which it must cost one a great effort to assume. We should judge however that the essayists would hardly be better pleased with this, than with the other notices they have encountered.

It exhibits in a very strong point of view, how mistaken have been their assertions with regard to facts, how erroneous their ideas with regard to the character and practice of other physicians, and how inconsistent are their own opinions, not only with all sound doctrine, but also with themselves. Out of their own mouth has he condemned them.

We recommend this pamphlet to the perusal of our readers, for although we cannot agree with all the opinions advanced by its author, yet as they are always stated with candour and modesty, they demand from every man a patient and liberal consideration. In order to present a distinct view of the objects proposed by Dr Comstock, we give entire his recapitulation, from which it will be seen that he has been occupied in refuting the same opinions and statements against which we lifted up our testimony on a former occasion.

‘In the course of the foregoing observations,’ says he, ‘I have attempted to show, in opposition to the opinions of Drs Miner and Tully,

‘That *no* means can subject Typhus fever to periods of time, so as to make this circumstance a proper criterion for the use of tonics, or other treatment.

‘That their practice of *increasing* the doses of Opium in fevers, until febrile irritation, restlessness and anxiety, &c., are subdued, *might* be the means of doing much harm.

‘That the use of Opium as a *specific* in Dysentery is *contrary* to true experience, and the observations of the best practical writers on the subject.

‘That such articles as Alcohol, Capsicum, Cantharides, Arsenic, Oil of Turpentine, Prussic Acid, Conium, Colchicum, Phosphorus, and the other highly exciting agents, are *seldom* necessary in Fevers, and *never* ought to be used, except with the greatest caution.

‘That those who are considered standard Medical authors *have* been practical Physicians, and wrote only from personal observation.

‘That the section of country from the mouth of Connecticut river to the boundary of Massachusetts, has *not*, for the last thirteen years, been particularly obnoxious to typhoid epidemics.

‘That there has *not* prevailed for the last fifteen years throughout this State an asthenic diathesis which affects all persons, whether in sickness or health, and on account of which the highly exciting agents became necessary on all occasions.

‘That it does *not* follow, because our fevers are properly treated without the loss of thirty or forty ounces of blood, that therefore an asthenic diathesis prevails, and they require Alcohol, Capsicum and Cantharides.

‘That there *is* such a disease as Cullen’s Synochus, and that this has probably been the most prevalent form of fever every where.

‘That it is absolutely *impossible* for a Physician to judge of diseases he has never seen, and consequently he can form *no* correct opinion of the diathesis which prevails at a distance.

‘That there *is* practical utility in the distinctions of direct and indirect debility, and that they are *not* subject to the same laws, *nor* require the same treatment.

That the doctrine of two forms of diseases only, viz. *sthenic* and *asthenic*, is pernicious in its consequences, and leads to indiscriminate and destructive practice.

‘That the doctrine, “moderate stupor from Opium is torpor, the excitability becoming latent, but not materially exhausted,” is not only novel and curious, but in the hands of the indiscriminate, might be dangerous.

ARTICLE IX.

Transactions of the Medical Society of the State of New York, for the year 1824. Together with the Annual Address. By ALEXANDER COVENTRY, M.D. President of the Society. Albany: E. & E. Hosford. pp. 54.

WE received the above report of the Transactions of the Medical Society of New York not long since, and have read it with much pleasure. The objects of this Society, like those of other States of the Union are highly praiseworthy, and the mea-

tures it has adopted cannot fail to advance the usefulness and reputation of the profession.

That medical men should differ on even very important points in medical philosophy admits of a ready explanation by the diversity of talent in its professors, and the endless variety of circumstances under which disease occurs, or by which it is marked. This difference is not so important as many conceive it to be. Difference of views, whether illustrative or explanatory, tend directly to widen knowledge, by the new facts which have led to them, or the research after new facts, in their support. And if the prevailing opinions are not at once yielded to the discoveries whether of facts or of principles, these last remain, and in time become parts, and sometimes very valuable portions of the sum total of medical learning.

There are some subjects, however, respecting which it is highly important that medical men should agree. We know of none more so, than the adoption of such plans as will give the highest moral character to the profession, and insure to it the best literary reputation. These are strictly the objects of our medical societies, and the experience of every day, gives additional proofs of their usefulness. These societies are formed originally by the well educated and respectable members of the profession. These have learnt the value of their privileges, and are anxious to secure, and convey them to others. Men of a different character, find the surest check in these societies. Communities know their own interests, and will always respect those most who have taken wise and honourable measures to secure their own privileges. The profession has been greatly benefited by these societies. Their publications are not unfrequently amongst the most valuable productions relating to medicine. They are made up of contributions from different individuals, and being the common property of all, bring much of the useful knowledge of the time into the hands of the professional multitude. They preserve too, much that might otherwise be lost, for there are few, if any works, so little liable to a permanent interruption.

On the medical character these societies exert a very beneficial influence. They have places of honour, and indirectly places of emolument, at their disposal. These are given to merit, and are motives to excellence. They stately bring together the best men of the profession, and thus secure to any and all, objects of professional interest, the best knowledge of the time. They make men acquainted with each other, who would otherwise have been strangers, and thus promote friendly and useful intercourse. Their privileges are granted and secured by law, and though apparently they may have a professional

bearing only, they have principally or ultimately in view the public good. The patronage of legislatures has its effect on those it protects, for it gives to an otherwise private or individual arrangement, a public sanction, and a public responsibility. This patronage has been singularly useful to the medical profession, for while it has granted a legal title to emoluments for services, it has also demanded a good education of those who may and would enjoy the advantage.

In the 'Transactions' which have led to the preceding remarks, we are presented with an account of the proceedings of the New York Medical Society at its annual meeting at the capitol in Albany, in February 1824. At that meeting reports were received and read from a number of the county medical societies of the state. These are printed. They relate principally to the adoption of the system of medical ethics and police of the State Medical Society. Among other miscellaneous subjects, the Transactions contain the Prize Questions of the Society for the present year; lists of officers, members, &c. We shall publish the Questions among other intelligence.

The greater part of the pamphlet before us is taken up by the Annual Address delivered at this meeting before the Society, by Dr Alexander Coventry, the President. We consider this a valuable paper, and well worthy the attention of American physicians. To give our readers some idea of its contents, and excite them to the perusal of the whole Dissertation, we shall occupy a few pages with extracts from it, and with some account of its objects and its subject.

The subject of this address is Endemic Fever. Dr Coventry does not, however, use this word to express the meaning which it ordinarily conveys.

'I use the term Endemic,' says he, 'rather in contradistinction to Epidemic, than as fully indicating the meaning wished to be conveyed, for I would be understood as speaking of fever originating from a local cause, rather than of a disease indigenous to a district or people, for as I hope hereafter to show, this fever has been prevalent in some countries at one period and entirely banished at others. I find it impossible to assign it a place in any nosology, with which I am acquainted, for I have seen it assume all the forms described, under the term pyrexia; nay, in the same individual, it often commences with most violent arterial action, yet ends in the most marked state of nervous debility.' pp. 23, 24.

Under the head of Endemic Fever, Dr C. is disposed to class the fever produced by the Mal'aria of Rome; the fever which prevails along the coast of the Mediterranean; the Jungle fever of Hindostan; the Mal de Siam; the destructive fever of Batavia; the fever prevalent on the coast of Africa; the yellow fever

of the West Indies and of our own commercial cities; and the fever which attacks and destroys so many of the hardy adventurers who are engaged in clearing and settling the forests of our back country. It is to this last that his attention is particularly directed, but he expresses his belief that it is similar in the nature of its origin and in its general character to the others which he enumerates.

The situation of Dr Coventry as a practitioner in newly settled portions of the Genesee country, has given him ample opportunity of observing and noting the features of Endemic Fever. Dr Coventry arrived in that country in June 1792. He gives the following history of his first encounter with this disease.

‘When I first became acquainted with the Genesee country, it was a forest, the surface covered with lofty deciduous trees, the snow fell generally in November and December, and disappeared about the first of April. The thermometer would sometimes fall from 10 to 16 degrees below zero, and in summer rise as high as 95 in the shade. The summers were rather dry, and the rains came with thunder, and fell in heavy showers. On the 1st July, 1792, I left my family in good health. On my return about the 17th of the month, of fourteen inmates, I found thirteen in bed with fever, and in the course of a few days, the other likewise was attacked. On the 15th of September, I was attacked with a chill, succeeded with a severe pain in the back, and violent headach, to the latter of which, I never had been subject. This was accompanied with a species of delirium, attended with phantasms continually passing before my eyes. A violent fever succeeded, with hot skin, parched tongue, and constant nausea. On the third day, taking a powerful emetic of six grains of tartarised antimony, I vomited nearly two quarts of bile; my skin became moist, and the headach abated. On the fifth day, every symptom was much ameliorated, and the danger seemed past, yet it was five weeks before I could sustain my own weight to walk to the door. In each of the two succeeding seasons, I had an attack of fever, but milder at the commencement, and more easily managed; I attributed these attacks to the fatigues and exposures inseparable from the practice of medicine, in a new and thinly inhabited country, where my visits sometimes extended from twenty to forty miles; but a circumstance for which I have not been able to account, was that for many years after, even when I had quitted that section of the country, about the same season, I was seized with a fever of a single paroxysm, which invariably went off with a copious perspiration of an uncommon and nauseous odour. In the year 1793, when about to commence my harvest, every man on the farm was seized with fever. I remember to have passed through Geneva, when there was not a sick person in the place; on my return within a few days, with the exception of a Miss Tallmadge, every individual in the village was confined to bed with fever.’ pp. 28, 29. 30.

During the autumns of 1792, 93, 94, 95, the proportional number of sick in the Genesee country was greater than that in any of the larger cities, although the degree of mortality, from a variety of causes, was probably less. The general type of this fever in the severer cases inclined to the remittent. It was often fatal, without any appearance of reaction, on the evening of the third day, and the fatal cases seldom extended beyond the fifth or seventh, whilst milder cases would continue to the fourteenth. There was great liability to relapse, which was easily produced by improper food, and, as convalescence was accompanied by a ravenous appetite, this was particularly difficult to guard against. Recovery was generally very slow, and the strength frequently not restored till the approach of the ensuing warm season. 'Almost every fatal case was attended with yellow, or rather orange coloured skin; many had ejections from the stomach of brown or coffee coloured matter, the dejections were often dark coloured, sometimes of a pitchy appearance, and petechial spots upon the skin were not uncommon.' The emigrants from New England and Europe were the most liable to be attacked by fever, those from the Middle States the next, and those from the South the least; so in the robust and middle aged, if full feeders and drinkers, it was particularly rapid and fatal. The fever operated as a seasoning, and those who had once suffered from it were much less liable to a second attack, unless particularly exposed.

Dr Coventry next inquires into the remote causes of endemic fever. He does not believe that it owes its origin to either heat or moisture.

'The generality of medical men have agreed in attributing the remote cause of the fever alluded to, to marsh miasmata, but what this supposed agent is, no one has yet ascertained. It has hitherto escaped the cognizance of the senses, and eluded the tests of the chemist, like the Typhon of the ancients, I suspect it is the offspring of the imagination. I am fully convinced from observation, that it is only under certain circumstances, that marshes become more unhealthy than mountains. We have seen well marked Endemic Fever originate on shipboard, a thousand miles distant from any marsh. Nor has time yet erased from my memory, the days I spent among the mossy moors and peat-bogs of my native country, where neither pale face nor yellow eye, was seen among the inhabitants. How many thousand acres of marsh, have I seen, not only on the Atlantic coast, but along the course of the Detroit, Niagara, and St Lawrence, where Endemic Fever was not to be found. In the first instance, a flood tide swept the face of the marsh every twelve hours, in the latter, a steady and regular moisture was kept up by these noble rivers, of which it might with justice be said,

"Though deep, yet clear, though gentle, yet not dull,
Strong without rage, without o'erflowing, full."

‘A residence for some years on the edge of a marsh, from which I annually procured a considerable quantity of hay, afforded me an opportunity of observing the changes, to which the insalubrity of marshes may be attributed. In some seasons the labourers would, with impunity, remain at work in the marsh for weeks, with the water as high as their ankles every day; at other times they would sicken in forty-eight hours, and I would be under the necessity of postponing my hay making, till a severe rain, or frost altered the condition of the marsh. If abundance of rain caused the water to overflow its usual bounds, and the flood continued long enough to drown the land plants on its borders, on the recession of the waters, the process of vegetable putrefaction commenced on its margin. If the season proved unusually dry, the moisture was insufficient to support the aquatic plants, they perished and underwent the same process; thus the draining of marshes is unhealthy during the first season, from the decay of the aquatics that grow in them. In observing the phenomena of two ponds, at the north end of the Seneca Lake, I learned how different seasons might affect the healthiness of a country. While these had a free communication at high water with the lake, no bad consequences resulted, but if the drought of the summer caused the surface of the lake to become low, one of these would drain off, the water plants perish, probably with the insects on them, and a most horrible stench was emitted. This commonly would last about a fortnight, when the whole surface would be covered with a crop of land plants, and the smell would cease; a heavy rain by filling the pond, would at times prevent this, at other times a shower would prolong the process; the other pond, whose bottom was deeper, and which was never entirely drained, would be considerably later in affecting the air. Thus, we may easily conceive, why one season is more unhealthy than another, why a violent storm and heavy rain, may at one time, put an end to a raging pestilence, as it did at Naples in the time of Prosper Alpinus, as it did, I believe at Natchez last season. It washes the surface, and operates like the inundations that Sir John Pringle said were practiced in Belgium, and something similar to the overflowing of the Nile. Yet the same may be the precursor and cause of disease, as it is on the coast of Africa, which becomes sickly when the rains set in.

‘During my residence in the lake country, I frequently remarked the effects of rains; if much water fell, the ponds near the lakes were kept full, and the lowlands in their vicinity continued healthy, but superabundant moisture assisted the decay of the leaves which covered the surface of the uplands, and fevers prevailed at a distance from the waters. The decay of the leaves of deciduous trees, as I think, is the true cause of the unwholesomeness of new and wooded countries. I believe the idea was first held out by Franklin, and acceded to by Dr Rush, that wooded countries were healthy, but with the exception of the pine barrens of the south compared with their swamps, the opinion is unsupported by either fact or reason. The woody regions of both Africa and the West Indies, are

the most sickly, and the name of Jungle Fever, shows where it prevails in the east. Have we not witnessed in our own times, in this country, surprising ameliorations, made by removing the forest? The Genesee country is in proof and perhaps still more so the county in which I now reside.'

'If neither heat or moisture, nor that child of the imagination marsh miasmata, can fairly be arraigned as the remote cause of fever, where shall we look for it? Having for nearly forty years observed the species of fever spoken of, always accompanied by, and never independent of vegetable or animal decomposition, the conclusion was unavoidable, that it was dependent on, or connected with that process. But whether our bodies are affected, by a poisonous gas given out, or by a chemical change, a new play of affinities in the atmospheric air, rendering it less fit to support the vital principle, is to me a desideratum which none of the eudiometrical observations that I have yet seen has tended to solve.' pp. 33—37.

Omitting any particular account of the symptoms and treatment of Endemic fever, Dr Coventry proceeds next to make a few remarks with regard to its prevention. As the disease is produced by causes strictly local, and causes which are not capable of operating at any great distance from the place of their origin, a regard to situation in fixing upon the scite of a town or of a residence is of great importance. The width of a street, or the distance between the top of a hill and the valley below is sufficient to make all the difference between health and disease. In new settlements the great danger is from the neighbourhood of forests of deciduous timber, and low spots covered with luxuriant herbage. A spot should be selected for the house of the emigrant, upon some elevated place, and ten or twenty acres around it be cleared from wood and sown before the farm is inhabited.

Dr C. alludes to the sufferings of New York from yellow fever and to the best method of preventing its ravages in future. The natural advantages of this city for the preservation of health he considers as uncommonly great, but as perverted and destroyed by the making of artificial land, consisting, as he informs us, of 'a mass of putrefiable stuff, with which the most noxious swamp in Genesee could not compare.' 'Had the bank of the North river,' says he, 'been left as it was originally, the tide would have removed all the filth brought down the cross streets, and all the sugar boxes ever brought from Havanna, would never have infected a spot large enough for a moscheto to alight on.' Upon a visit to the city he recognized in the pale and sallow look, the yellow skin and muddy eyes of the inhabitants, the same marks of the operation of the causes of Endemic fever with which he had become familiar in the lake country; and found that the fever of the city had been accompanied with the same symptoms as that of the country.

That the evil may be remedied our author has no doubt. 'Quarantines have been faithfully tried, but are found wanting.' Security can only be found in perfect cleanliness, and in preventing entirely all vegetable and animal putrefaction within the limits of the city.

Dr Coventry closes his address with giving his testimony against the doctrine of the contagion of yellow fever. And admitting of the identity of the yellow fever of the seaboard with the endemic fever of the back country, his opinion upon this subject must be admitted to have considerable weight.

'It may be perceived in common with those whose chief residence has been in countries where Endemic Fever is prevalent, I believe in the domestic origin of yellow fever. I have never met with a gentleman from the East or West Indies, nor even from the southern states, whose residence was on the tide waters, who entertained a doubt on the subject. We know that every or almost every malignant case, is attended with yellow skin, and almost every fatal one closed with the black vomit, or the vomiting of black matter spoken of by Hippocrates.

'The idea of Contagion, was the trick of a crafty Priest, who, with the aid of a physician, thereby frightened a council from Trent to his city of Bologna, as the pestilence was said to have a partiality for noble blood. The shocking scenes which took place in Spain, even as late as 1821, ought to warn the contagionists of the dangerous tendency of their doctrine. At Barcelona and Barcelonetta, when the wretched inhabitants sought refuge in the country, they were met by their friends with fire-arms, forced back to the source of pestilence, where to complete the tragedy, the government surrounded them with a cordon of troops, thereby condemning them to inevitable destruction. Yet we have the evidence of the intrepid O'Halloran, and the veteran Jackson, confirmed by a memorial from many respectable French, English, and I am happy to add, Spanish physicians, that the disease of the peninsula was neither imported or contagious, but the Endemic of the country. From the medical ranks of the universe, a more proper person than the venerable Jackson, could not have been selected, to ascertain the real state of the case; his long residence in the West Indies, the years he passed in our southern states, qualified him peculiarly for the task. Actuated by the sublime love of science, and most zealous philanthropy, at his own expense, and risk of his life, this second Howard, at the age of seventy, left his friends and home, passing into a foreign country, to examine at its source, the cause of disease. To you who know him by his excellent publications on fever, I need not add that he alone is a host. Indeed the English physicians had already begun to open their eyes on this subject, the countrymen of Bacon and Newton, will not listen long to sophistry, even from respectable sources. Many of the most respectable French, and even Spanish physicians, have correct ideas on the subject.'

It seems to us exceedingly desirable, that a writer of Dr Coventry's qualifications should enter more at length into the consideration of the subject which he has briefly noticed in the pamphlet before us ; that he should describe more fully the fever which he has encountered, enter more deeply into the consideration of its nature, causes, and treatment, and compare it with the accounts given by others of those fevers to which he supposes it to be similar. Could he satisfactorily establish his doctrine, of the general identity of these diseases, an opinion, which so far as he has gone appears sufficiently plausible, the results which would follow from the prevalence of such a belief would at once be highly interesting in a scientific point of view, and important in their practical bearing.

ARTICLE X.

Medical Dissertation on the Diagnosis and Treatment of Pertussis or Chin-cough, which obtained the Boylston Premium for 1822. By A. L. PEIRSON, M.D. M. M. S. S. Salem, 1824. p. 51.

A MEDICAL Dissertation is valuable only in proportion to its practical nature, and judged by this rule the pamphlet before us will be found to merit high commendation. It is an account of a very common disease, in which the writer has confined himself to the history of its phenomena, modes of treatment, &c. and resisted the temptation to enliven the dulness of an old subject by the new decorations of conjecture. Our readers are deprived, by this abstinence of Dr Peirson, of the entertainment, which they would have received from our demolition of his hypothesis, if he had ventured any, and must content themselves with a simple analysis of his dissertation.

With respect to the name of the disease Dr P. prefers the latin designation Pertussis, to those of Tussis Convulsiva, T. Spasmodica, &c. He supposes with Watt that Chin-cough is an alteration from kink-cough, from its disposition to recur in paroxysms, or kinks' a provincial synonym in some parts of Great Britain. Dr Johnson derived it from the Dutch Kinchin, to pant. We like Dr Good's derivation, mentioned by Dr P. from the Saxon *Kind*, a child, better than either.

The question of its origin is but slightly noticed as follows :

'The state of the air most favourable to the origin of pertussis is that of humidity and a variable temperature. Hence it arises that it more frequently appears at the commencement of Autumn

and of Spring, in moist climates and upon the seaboard. It is common to refer the origin of epidemic disorders to atmospheric miasmata, and it is evident, that if any disease has a right to claim such an origin, it is this, since when it makes its appearance, many persons are attacked at the same time, and without communication with each other. The question of its absolute contagiousness is still involved in some doubts, although the most numerous probabilities lie on the affirmative side.' pp 5, 6.

The seat of the disease is considered to be in the mucous membrane lining the trachea, bronchia, and air-cells, that which lines the stomach having some participation in it.

Of the account of the phenomena, our limits will allow us to say but little. Those who have witnessed cases of Hooping-cough, will allow its fidelity, and those who have not, will read it with advantage. The author observes that 'the Diagnosis in the first stage, may often become a point of the highest importance' but the seasons when pertussis is most prevalent are so favourable to the production of common catarrh, that we can rarely decide with any confidence during this stage in the affirmative, the negative however may be often ascertained from the circumstance that the disease attacks but once during life. The diagnosis in the later stages is comparatively easy to one who has ever heard the peculiar cough. While on this part of the subject Dr P. observes that his experience has not been favourable to the notion of the beneficial effects of vaccination in this disease.

The prognosis is unfavourable in proportion to the youth and debility of the patient, the violence of the symptoms, and the coexistence of certain of the latter, not necessarily belonging to pertussis. Dr P. has never known any injury to arise from the occurrence of hemorrhage from the mouth and nose, though a sufficiently common one.

The treatment occupies the greater part of the pamphlet. 'It involves' Dr P. remarks, 'many considerations oftentimes extremely embarrassing, inasmuch as the indication proper to be pursued during one stage of the complaint, and in one modification of it, may be very insufficient and indiscreet in another.' He includes under one of five indications, every thing that is proper to be done in this complaint.

'First. To remove all offending matters from the stomach and bowels.

'Second. To shorten the period of the complaint.

'Third. To guard against the inflammation of any of the respiratory organs and to obviate such inflammation, when it does occur.

'Fourth. To preserve the vigour of the system by a proper attention, to clothing, diet, air and exercise.

'Fifth. To restore the healthy functions and remove the cough

and other symptoms, which sometimes remain long after the specific disease which accompanied them has disappeared.' pp. 12, 13.

The first of these is answered of course by emetics and cathartics, which will be necessary through the whole course of the disease, whenever the stomach or bowels suffer from accumulation. Dr P. prefers ipecacuan. for the former, as the safest, and we may add the most certain; and the sub-muriate of mercury for the latter, assisted occasionally by castor oil. He prefers giving them separately to combining them in one dose.

The second vindication, it is acknowledged, may seem to some a remarkable one in the treatment of a disease originating from specific contagion, but it is contended that it is founded on experience, although all known methods of effecting it are somewhat vague and uncertain. They are included under the following heads.

Narcotics. Opium though it may sometimes be used as a palliative is liable to two weighty objections. It increases the disposition to coma, and produces costiveness.

Digitalis, in the opinion of Dr P. is the most useful of all narcotics in pertussis. It is not liable to the objections against opium in inflammatory diseases, being frequently used in such with benefit. 'Six drops of a saturated tincture may be safely given to a child one year old, at intervals of six hours. This dose may be increased by one drop at a time, till a diuretic effect is produced, or the state of the pulse indicate its diminution or suspension.'

Conium maculatum is considered a safe and useful narcotic, but the others as belladonna, stramonium, &c. as deservedly obsolete in this disease.

Cantharides. 'The saturated solution is the form usually prescribed;—it may be given every three hours, beginning with a dose of two drops for a child, one year old and increased until symptoms of strangury appear, soon after which a decided abatement and frequently almost a cessation of the peculiar cough will take place.' From this, the diuretic effect of digitalis and some other facts and statements, the author infers 'a *direct sympathy* between the *mucous membrane* of the *urinary* and that of the *air passages*, by means of which a stimulus applied to the one, relieves the too great excitement of the other.'

Alkaline remedies. Dr P. doubts whether these have any other effect, except that of correcting acidity in the *primæ viæ* and believes that a quantity of lime water, or carbonate of soda added to the milk, which is the principal food of children, will answer every valuable purpose in this way.

Antispasmodics. Of these, as castor, musk, &c. our author thinks slightly with the exception of assafœtida. He observes

that 'under its use it certainly does appear that the appetite improves, the violence of the cough is abated and quiet sleep is induced.' We take this opportunity of giving our testimony in favour of this article in the bowel complaints of children generally, and of a particular form of administering it; we mean that of injection, and made by pouring boiling water upon powder of assafoetida. It stimulates the large intestines to evacuate their offensive contents whether fecal or gaseous, and serves to calm that irritation in these parts, which is often one of the most distressing symptoms.

Arsenic. Of this Dr P. does not seem to have had much experience, he speaks favourably of it, on the authority of Dr Ferriar; and from the analogy of its effects in other spasmodic diseases, as tetanus and delirium tremens.

Emetics. For fulfilling the present indication, Dr P. thinks tartarized antimony not only before every other emetic, but perhaps before every other medicine. He prefers giving it in such small doses as to remain sometime on the stomach, so as to keep it in readiness, if we may so speak to evacuate its contents at the next paroxysm of coughing.

Purgatives. Not much is expected from purges in this disorder after the bowels have been duly evacuated. The author seems to think that there is a sort of *routinism* prevalent which leads to the too frequent exhibition of purgatives in all complaints of children, though he is disposed to allow them great value in cases where an inflammatory tendency prevails. We remark in passing, that the science is in want of a phrase to express the particular mode of exhibition of purgative medicines recommended and practised with so much success by Hamilton. It is neither purging in the full force of that term, nor is it the use of laxatives, by which are commonly understood a class of medicines rarely used by Hamilton or his followers. The author of the Cook's Oracle uses a phrase, *peristaltic persuasion*, which comes nearer the desired expression than any we have ever met with, and in some such sense we think purgatives necessary in almost every disease, whether of children or adults, and he who sets himself seriously about effecting a regular peristaltic motion in any chronic complaint and in many acute ones, will find that he has more to do, than he could have imagined from the slight manner in which the subject is touched upon in many systematic works. And what is more, he will discover not unfrequently, that he is doing his patient more good than he expected. In the mean time we may observe that we agree entirely with our author that there is no advantage to be expected from *purges* (we use his own phrase though we prefer that of *purgatives*) except that of evacuating the bowels of

their offending contents and lessening the preternatural circulation and morbid heat, when these symptoms are present.

Tar vapour. Dr P. does not speak of the effects of this from his own experience and we have none ourselves.

Topical applications. Neither the application of blisters nor that of the ointment of tart. antimony are supposed by our author to be often, if ever useful in Pertussis.

Prussic acid. The effects of this article are considered at some length. The experience of the author is upon the whole unfavourable, 'although it checked the progress of the cough in some of the milder cases, it appeared inadequate to subdue the severer ones.' Of thirteen cases in which it was exhibited, it appears by the table that in seven there was no effect, in three there was some apparent benefit, in two decided relief. In the remaining case it was irregularly administered and no satisfactory conclusion could be drawn. He thinks it deserving of farther trial. We fear that this medicine is about joining some of its equally renowned predecessors in that retirement, from which it will only be drawn to perform an occasional miracle, and be again forgotten.

To answer the third indication we have venesection, leeches, or cupping, mercurial purges, and the warm bath. Dr P. thinks antimonials, the only diaphoretics upon which any dependance can be placed, except occasionally a saturated solution of carbonate of potass or soda.

Under the fourth indication are some good rules for the diet of patients in this disorder, for which we must refer our readers to the pamphlet itself.

The fifth and last indication is to be fulfilled by change of place, the cold bath, cinchona, the preparations of iron, particularly the phosphate and the application of a pitch plaister between the shoulders. Of these the first is the most important, it becomes necessary in almost every severe case of pertussis, and its effects are well known to be in many cases, almost magical. The most remarkable circumstance is that mere change, without regard to the nature of places seems often to produce the desired effect.

The details of sixteen cases conclude the dissertation. A few remarks are added in the pamphlet on the application of leeches to the head as recommended by Dr John Webster, in the London Medical and Physical Journal, Dec. 1822. The practice was tried by Dr P. in four cases with little or no success.

We are disposed to agree with our author in the general conclusions, which he draws from his experience in this disease.

Without extracting them at length, we observe that they are in substance as follows; that pertussis is not in itself often a fatal disease, but is apt to be combined with, or lead to, others which may become so. And that the symptoms which most require to be combated are generally those which are not peculiar to this disorder and which of course must be treated on general principles.

SELECTIONS.

1. *Histoire des Phlegmasies ou Inflammations Chroniques, fondée sur des Nouvelles Observations de Clinique et d'Anatomie Pathologique : Ouvrage Présentant un Tableau Raisoné des Variétés et des Combinaisons diverses de ces Maladies, avec leurs différentes Méthodes de Traitement.* Par F.-J.-V. BROUSSAIS, Docteur en Médecine de l'Ecole de Paris, Médecin des Armées, Membre Correspondant de la Société Médicale d'Emulation de Paris. Vol. I. comprehending Chronic Inflammations of the Lungs and Consumption. A Paris, Gabon. 1808.
2. *Uebersicht der neueren Fortschritte in der Lehre von den Lungenkrankheiten.* Vom HERRN DR ROMBERG, Praktischem Arzte zu Berlin. Fortsetzung.
View of the recent Progress of the Literature of Pulmonary Diseases. By Dr Romberg, Practical Physician in Berlin, From the Number of Horn's Archives of Medical Experience for July and August 1822, p. 55.

[From the Edinburgh Medical and Surgical Journal, Jan. 1824.]

THE recent literary history of Consumption presents several interesting points, attention to which may be instructive not only to the rising members of the profession, but also to many who have been long concerned in its practice. The difference of pathological principles, the complete opposition not unfrequently displayed in modes of treatment, and the occasional happy results of empirical measures, may be said now to admit of more satisfactory explanation, since the nature of the disease has been more thoroughly investigated. It is the peculiar glory of modern physic, that she has availed herself of the aid of pathological anatomy to improve the art of healing, and to furnish the physician with the most direct and energetic

means of controlling disease ; but it must be acknowledged, that the treatment of consumption has derived but little advantage from this source ; and we fear that inquiry would show this malady to be as rarely cured at the present moment, when pathology is zealously cultivated and well understood, as in former periods, when it consisted of fiction and hypothesis, and when treatment was too often entirely empirical. It is indeed to be regretted, that the unsuccessful results of treatment suggested by reason and principle, furnish a strong pretext for adopting the bold and blind measures of empiricism ; for when rules of science fail, it may be said, can the practitioner be censured for availing himself of those resources, the efficacy of which is demonstrated by experience ? This specious argument, we regret to say, has too often been resorted to as a principle of action ; and the history of physic betrays too many examples of the fluctuating and contradictory system employed in the treatment of consumptive disorders. It must not be concealed, that the writings of physicians record instances in which persons labouring under complaints declared by experienced judges to be unequivocal symptoms of consumption, have yet recovered from the most hopeless condition, and enjoyed a considerable degree of health for many years, sometimes for the duration of a long life. It is equally necessary to acknowledge, that cases of reputed consumption are daily occurring, which the rules of art fail to control, and which, however, appear to yield to modes of treatment sometimes extremely simple, sometimes completely opposite to that recommended by physicians. The ordinary manner of setting aside the evidence of these reputed cures or recoveries, is by denying the identity of the disease and true consumption, and thus stigmatising the medical adviser with the ignominious distinction of being unable to recognise the difference. We are unwilling to admit a conclusion so invidious to those whose interest it is to maintain that they succeeded in curing consumption ; nor do we regard it as altogether just, that those who have been unsuccessful should, without inquiring into circumstances, deny the authority of facts established on the testimony of those who must be regarded as competent witnesses. A more liberal and not less philosophical construction would suggest, that there are only three modes in which facts of this description can be explained. Either the instances thus recorded were examples of disease which simulate genuine consumption, or the methods employed were really efficacious, or the disease is spontaneously curable. If we admit the first of these positions, it follows, that our present semeiography of consumption is inaccurate ; or, if this be denied, that the same train of exterior

signs depends on very different pathological causes. That the methods of treatment were uniformly efficacious, cannot be believed, when they are found so generally unsuccessful in the hands of other physicians than those who originally introduced them; for it is quite inconceivable, though allowance be made for the usual uncertainties in the quality of remedies and idiosyncrasies of patients, that all trials whatever, when conducted with requisite precautions, and with due regard to circumstances, should be abortive. The third alternative, therefore, is the only one which remains; and if it be admitted that the semeiography is correct and remedies inefficacious, it follows, that consumption occasionally admits of a spontaneous cure,—a conclusion so contrary to every thing that experience has met with, or theoretical considerations teach us to expect, that it is utterly impossible to admit it without further and more positive examination. Yet this conclusion, however absurd it may appear, is not only implied in the evidence of such cases as those to which we have alluded, but forms also the basis of every method of treatment, and every antiphthisical remedy with which modern practice at present abounds, or may afterwards be enriched; and their efficacy or inutility must be estimated according as the sanability of consumption shall be established or disproved on satisfactory grounds. The progress of science, therefore, and the interests of society require, that all who are concerned in this great professional question, should investigate the facts and arguments on which its decision depends; and, by inquiring into the pathological character of the disease or diseases referred to the head of consumption, ascertain how far they may be regarded as capable of being cured. This inquiry is undoubtedly embarrassed, with many contradictory facts and incredible results which it may be difficult to reconcile, or explain in a satisfactory manner; but we are not without hopes, that, by contrasting the nosological characters with the pathological causes of the disease, we shall be enabled to discover whether they furnish evidence of the sanability of consumption, and of the process by which cure or recovery is effected. In the course of this inquiry we avoid details of phenomena and symptoms, as we presume that these are superseded by the writings of Broussais, Armstrong, Abercromby, Hastings, and Laennec; and strictly confine our present observations to those pathological points which contribute to illustrate the main subject of investigation,—the extent to which diseases of this description are naturally manageable, or under the control of the physician.

The nosological character of the disease termed Consumption, Decline, or Wasting (phthisis), is derived from the obvious symp-

toms which the person of the patient presents; and if we adopt, as an average example, the enumeration of phenomena given by Cullen, we find, first, that they are liable to variation, and, secondly, that they do not always depend on the same pathological cause. Of the five circumstances, for example, chosen by this physician as characters of consumption,* three, at least, viz. wasting, weakness, and constant fever, are common to every disease in which there is local disorganization, or a process of destruction accompanied with chronic inflammation; and they may be both considerable and conspicuous, while the tissue of the lungs is neither tuberculated, destroyed by ulceration, nor otherwise diseased. Cough and excretion of purulent matter only are distinguishing characters; and if we are allowed, according to the principles of fair reasoning, to object, that the nosologist himself, in defining the incipient disease, has admitted that one of them is not essential, and is not always present even in its confirmed form, we arrive at the conclusion, that cough, with occasional difficult breathing, is the only pathognomonic sign by which consumption can be recognised. As it is certain that this last symptom does not uniformly depend on the pathological process of genuine consumption, the practical physician is reduced to the conclusion, that there are no positive means of recognising consumption before expectoration has taken place; that when this has occurred, it may arise from other causes; and consequently, if his observation is casual, or confined to particular periods only of the disease, its nature may remain completely unknown. It may also be observed, that it is well known to those familiar with the phenomena of consumptive cases, that examples are not unfrequent, in which all the other symptoms appear, and continue till the fatal termination, though no discharge of purulent or tubercular matter had ever occurred; yet examination showed the lungs occupied with tubercles in various degrees of maturity, and other changes in structure. On the other hand, it has been ascertained by many observations, but especially by those of Laennec, that the destructive process which constitutes genuine consumption may be considerably advanced, without giving rise to the fever, weakness and wasting, which are uniformly ascribed to it.† It is chiefly to circumstances of this description that the difficulty of ascertaining the effects of medical treatment, and powers of remedies in the management of such disorders is to

* *Corporis emaciatio et debilitas, cum tussi, febre hectica et plerumque expectoratione purulenta.* Synopsis Nosol. G. XXXVI.

† *A Treatise on Diseases of the Chest, &c.* by R. T. H. Laennec, p. 42, 303, translated by Dr Forbes.

be imputed; and, if we add to this the consideration, that in the cases reported to be cured, we can rarely obtain that evidence, without which reasoning must be conjectural, and assertion groundless, it must be admitted, that unless the pathological process of genuine consumption can be more exactly distinguished during life, it is impossible to determine whether all the cases in which remedies have been exhibited with benefit, have been actually examples of consumptive disease. It may indeed be urged, that these difficulties or fallacies are to be ascribed to the imperfect semeiography hitherto adopted, and to deficiency of pathognomonic characters; and that we ought therefore at once to renounce all inquiry or examination of evidence, where the elements are so little tangible. Though this argument is so rational, that we shall subsequently give it more attention, and attempt to show its practical importance, consistency requires us to adhere, in the mean time, to that system of semeiography on which practitioners and experimental physicians have relied, in forming an opinion on the state of the lungs, and in estimating the effects of remedies, and of modes of treatment.

It appears, therefore, that the assemblage of morbid phenomena, at present called *symptoms of consumption* by physicians, may arise from pathological causes, or processes, which ought to be distinguished from each other. Though these causes, or pathological processes, will be so much more numerous, according as the diseases compared are examined, in the early or more advanced stages of their progress, we shall, however, confine our attention to those morbid states only which are liable to be confounded, and in which the symptoms, according to the ordinary practical doctrines, suggest the use of those measures which are conceived to possess some antiphthisical or sanative power. Proceeding on these principles, we find, that the external signs by which physicians are in the habit of recognising the presence of consumption, may depend, *1st*, on chronic inflammation or other morbid conditions of the bronchial membrane; *2d*, on ulceration, with chronic inflammation of the larynx or trachea; *3d*, on chronic inflammation of the pleura; *4th*, on inflammation with suppuration of the lung; *5th*, on tubercular destruction of this organ.

I. The pulmonary mucous membrane is liable to inflammation in various degrees of severity, from the slightest cold or catarrhal affection, to the most violent peripneumony; and as the action is rapid and transitory, or slow and more lasting, it is said to be acute, subacute, or chronic. In this condition, dissections inform us, that a space more or less considerable of

this membrane becomes redder than natural; and what was previously uniformly grey and smooth, appears to be traversed by minute vessels, or dotted with numerous reddish asteroid points. At the same time, the membrane becomes softened, villous or rough, pulpy,* and thicker than natural, or more swelled, so that the calibre of the smaller bronchial tubes, and the capacity of the pulmonary vesicles, is considerably diminished. These appearances, which may be said to constitute the anatomical characters of simple inflammation of the bronchial membrane (bronchitis), are common both to the acute and chronic forms of the disease. In the latter, however, it appears that they take place much more slowly than in the former, and the membrane, though reddened and villous, is rarely so much thickened, or rather swelled, as in the acute disease.

A uniform effect of this action in the pulmonary mucous membrane is, to augment the quantity, and change the quality of that fluid, which it secretes in the natural state; and there is reason to believe, that every derangement, however moderate, of this secretion, depends on some form or degree of inflammation. The extent to which these changes take place, varies according to the severity and duration of the disease; and this gives rise to considerable variety in the characters of the fluids discharged by expectoration. At the commencement of chronic, or even acute inflammation of the bronchial membrane, the bluish, semitransparent, and particled mucus of health is mingled with mucilaginous, transparent, and greyish fluid, not unlike white of egg, which is secreted in considerable quantity. As the morbid action goes on, however, it becomes thicker, more viscid and opaque, and generally sinks in water; and, when fully established, this thickened mucus is either mingled with, or entirely converted into, a yellowish, opaque fluid, which cannot be distinguished from purulent matter, and which is generally more or less streaked with blood. This is the ordinary change of the secretion of the bronchial membrane when inflamed; but variations are often met with. The matter expectorated may be merely thickened mucus, very opaque, and condensed; or it may be mucus much streaked and mingled with blood.

It might be supposed that these changes could not be effected without breach of continuity, or ulceration of the membrane; yet it is established on the most unquestionable evidence, not only that purulent fluid may be expectorated, but that all the concomitant signs of consumption may occur without other

* Hastings, 281.

change of the condition of the lungs, than the process of inflammation of the mucous membrane. In the course of his practice at the Hospital of Vienna, De Haen ascertained, on examining the bodies of persons, who, after copious expectoration of puriform or purulent matter, had died with the usual symptoms of consumption, that no ulcerated breach could be detected, either in the lungs or bronchial membrane.* The same fact was established by Dr Willan, in many cases of this disease which fell under his observation in the spring of the years 1796 and 1798;† and by Dr Badham, who has shown, in his short Treatise on Bronchial Inflammation, that this disease gives rise to all the phenomena of consumption, and may eventually disappear.‡ More recently, Dr George Pearson, who has examined attentively the chemical characters of the various kinds of expectorated matter, has shewn, that an opaque, white, or yellow fluid, equally consistent, but more tenacious than cream, is discharged from the pulmonary membrane, without breach of surface, in two different conditions of the organ. Firstly, in the instance of a woman, who, in the third week of an attack of measles, expectorated more than a pint of greenish cream-like matter every twenty-four hours,—after death, which took place in a few days, careful examination of the lungs disclosed neither ulceration of the bronchial membrane, nor tubercles or abscesses of the pulmonic tissue. Secondly, in the case of a man who expectorated a fluid considered purulent by all who saw it, and believed to proceed from ulceration or tubercular softening, it was found, that the only morbid change was condensation or consolidation of the lungs, with watery effusion in the cavity of the pleuræ.¶ In cases similar to the first of these, which are now known to be exceedingly common, the puriform or cream-like fluid is secreted by the membrane in a state of chronic inflammation; in those of the second sort, which, as will appear, are equally common, the membrane is either inflamed, or becomes the seat of an aug-

* *Rationis Medendi*, I. XI. p. 60.

† “The disorder had not, therefore, in any case, produced ulceration of the lungs; and the expectorated fluid, so alarming in its appearance, was perhaps only composed of a puriform secretion and an increased discharge of mucus; circumstances usual in other membranous inflammations. It is worthy of remark, that by such a state of the inner surface of the lungs, the constitution is affected nearly in the same manner as when they are ulcerated; on which account, the diagnosis of pulmonary consumption must often be rendered obscure and difficult.”—*Willan's Reports*, 1796, 20th March.

‡ *Observations on the Inflammatory Affections of the Mucous Membrane of the Bronchia*, by Charles Badham, M.D. &c. &c. pp. 48. 76.

¶ *Transactions of the Royal Society*, 1809, Part II. p. 315—321. On the Qualities of Expectorated Matter, by George Pearson, M.D.

mented action, which depends on any cause that resists the free transmission of blood, and the healthy motions of the lungs. According to the further observations and researches of this physician, which have every appearance of being accurate, the fluid secreted from the inflamed pulmonary membrane, may present almost every variety of colour and consistence, from thickened mucous to distinct purulent fluid, or these two substances may be combined in every proportion. The general correctness of this conclusion has been confirmed by the cases of Dr Hastings, and by the daily observation of many examples of purulent expectoration.

The frequency with which a greater or less proportion of blood is mingled with the matter excreted in chronic bronchial inflammation, requires that some notice be bestowed on this phenomenon. The discharge of blood by expectoration, has been too often regarded as a disease, when it ought to have been considered as a mere symptom. In one condition only of the lung, can it be with any reason considered as an individual disease; and even here it might be shewn to be the result of a preliminary process, consisting of local vascular congestion. In all other circumstances, however, it is uniformly the effect, and consequently the symptom, of a morbid process. We allude to those cases in which blood is expectorated in small quantity, almost pure and fluid, or mingled with more or less muco-purulent matter. This is the *hæmoptoe* described by nosological writers, and justly distinguished from *hæmoptysis*. It occurs so frequently in chronic bronchial inflammation, that it may almost be regarded as a symptom of the disease; and instances occur in which the only symptom is the occasional excretion of blood, or bloody mucus, for a long time, sometimes with intervals of health for years.

In these circumstances, the blood, whether pure or mingled with mucous or purulent fluid, is discharged from the bronchial membrane without destruction of tissue or rupture of vessels, or, in the language of some physiologists, is exhaled. 'I have often opened,' says Bichat, 'persons who have died during hemorrhage, and have examined the bronchial, gastric, intestinal, and uterine surfaces, yet have not perceived the slightest trace of erosion, notwithstanding the precaution of washing them with care, allowing them to macerate, and afterwards submitting them to examination by means of a lens.'*—'the hemorrhages also,' he remarks, 'which are occasioned by violence, and produced by rupture, viz. from the nose and ears in injuries of the head, from

* Anat. Generale, Vol. I. p. 563—565.

the bowels and urethra in other injuries, have phenomena and duration completely different from those which take place from a mucous surface.* Many other facts show, that blood, even in considerable quantity, may be discharged by expectoration, without rupture or ulceration of the pulmonary membrane. It is to be regarded, then, as a symptom of inflammation, appearing when this is present, and vanishing when it subsides.

The duration of this disease is various, according to circumstances of constitution, treatment, and external agents in general. It is seldom shorter than three or four weeks, and it may extend to sixty days, or three or four months with considerable change in the violence of its action and effects on the constitution. In general, however, before this time it manifests a tendency either to subside, to affect the submucous tissue of the lung, or it may terminate the existence of the patient, by the violence of its constitutional effects. That it may terminate spontaneously, especially if favoured by the cooperation of mild weather, and shelter from exciting causes, we have the united testimony of many authors; but more especially of Dr Badham, Willan, Broussais, and Hastings; and recovery is more certainly effected under the use of those means which are known to control inflammation.

‘In several patients,’ says Dr Willan, ‘most of them females, a hard sounding cough was, after some days, followed by an expectoration of thick fetid greenish matter, intermixed with a large quantity of clear viscid mucus. Along with this, other symptoms appeared, which seemed to indicate the appearance of *phthisis pulmonalis*, as diarrhoea, hectic fever, night sweats, and emaciation. The complaint was much aggravated during the frost, which began in the last week of February, and terminated on the 11th March. It was not at all alleviated by blood-letting employed at an early period of the cough. The most effectual remedies appeared to be cupping between the shoulders, blisters applied to the sternum, and *scrobiculus cordis*, pediluvium, antimonials occasionally, nitre and demulcent drinks. Under this treatment, added to a light cooling diet, all the above patients were restored to health before the 20th March.’ And afterwards, in his Report for the spring quarter of 1798, he states, that ‘many persons who had catarrhal coughs in March, were farther affected with spitting of blood, thick viscid expectoration, pains within the chest, hectic fever and diarrhoea, interchanging with night sweats, but recovered notwithstanding in the month of April.’ This observation he afterwards remarks, enforces one practical point of some consequence, ‘that in coughs succeeding

* Reports, 20th March, 1796.

to catarrhal fevers, we should not be too hasty in pronouncing a case to be decidedly phthisical; nor, whenever the lungs are inflamed, discontinue, so long as a possibility of benefit remains, the proper regimen and the means of resolution.'

This disease, which constitutes what has been called *catarrhal* or *pituitous consumption*, has too frequently been distinguished by practical authors, into as many varieties as the exciting causes which are concerned in its formation; but as this subdivision is at once irrational and of no practical use, it ought to be abandoned. Whether the disease succeeds to acute inflammation, or catarrh, or measles, or hemoptysis, or irritation, mechanical or chemical, or the deranged condition of dyspepsia or liver disease, or the morbid susceptibility of fever, or accompanies other morbid actions, as spitting of blood and peripneumony, it is uniformly to be regarded as the same pathological process,—as inflammation more or less violent of the pulmonary mucous membrane, and as effecting the usual derangement in the functions of this membrane. That form of it which depends on disorder of the chylopoietic viscera, described by Mr Abernethy and Dr Wilson Philip, though occasioned by a peculiar remote cause, is pathologically the same morbid action as the chronic inflammation which succeeds to measles or pneumonic disease.

The testimony of De Haen, Stoll, and Frank, show that it forms a great proportion of consumptive cases in Germany; in Russia it appears to be frequent; it is noticed by Dr Lionel Chalmers as particularly prevalent in Carolina, and by Dr Rush in North America in general; and there is reason to believe, that the rapid cases which occur among seamen in the Mediterranean and West Indies, consist originally of this disease. It is indeed by far the most frequent of pulmonary complaints, and it may be considered as certain, that, in the greater number of consumptive cases, chronic inflammation of the bronchial membrane is either the principal, or the only pathological action. It is indeed true, that it generally occasions inflammation and induration of the pulmonic tissue, before it terminates fatally; and it might be argued, that according to the evidence of morbid dissections, the disease should be regarded as chronic peripneumony; but as we shall show that this is the result of the previous inflammation of the mucous membrane, we conceive it most proper to refer the disease to this latter head. There is reason to believe, that the greater number of cases of reputed consumption occurring in large towns, and marked as such in the bills of mortality, are examples of chronic catarrh, with or without pulmonary consolidation; for the generality of tubercular disease, though very great, has been much overrated. The only existing

evidence for the prevalence of true tubercular consumption, depends on the most questionable testimony; and as we cannot justly admit, without actual dissection, the presence of tubercles in every case said to die of consumption, it is obvious that the means of ascertaining the point should be more positive. Judging from what we see in this city, we should believe that a small proportion indeed of cases with consumptive symptoms are to be referred to tubercular disorder; and we find the testimony of Dr Willan as to London leading to a similar conclusion.

‘In my own list,’ says the physician, ‘the article of pulmonary consumption includes cases of ulcerations of the lungs, and alterations of their texture, in consequence of pneumonic inflammation, and repeated catarrhs. I apprehend not more than a *fourth part* of the whole number of cases put down could be referred to proper phthisis, arising from the *slow and successive suppuration of tubercles* in strumous constitutions.’ Reports, 1797. April.

The proofs which we have here adduced may be sufficient to establish the two leading facts in this inquiry; 1. That chronic inflammation, without ulceration of the bronchial membrane, will give rise to the constitutional symptoms of consumption; and, 2. That this disease, in favourable circumstances, is susceptible of cure spontaneous, or effected by art; and it is therefore superfluous to occupy more time in establishing what must be already obvious. We cannot however quit this part of our subject, without remarking, that this view affords a satisfactory explanation of the apparent efficacy not only of reputed remedies, but of recoveries from consumption, which have been reported to have occurred. Various cases of this kind are recorded in the writings of Darwin, Beddoes, Kinglake, and Magennis, and we think perusal of these cases will show, that the greater number, we may almost say the whole, of those which recovered were examples of chronic bronchial inflammation. The five successful cases which are particularly described by Dr Magennis, are evidently to be referred to this head;* for the symptoms, at least as far as a judgment can be formed, and the effects of the remedy, indicate an inflammatory action only. The instances of cure, related by Dr Beddoes, took place under considerable variety of treatment. Three were effected by stabling with cows; two by regulated temperature; and two by combination of foxglove and antiphlogistic remedies. The case of Dr Briggs is evidently an example of pulmonary apoplexy, with local inflammation of the bronchial membrane. Of four other cases published subsequently by this author, the symptoms and mode of formation indicate no-

* Medical and Physical Journal, Vol. XXV.

thing like tubercular destruction, and we think there can be little doubt that they were distinct examples of chronic inflammation of the bronchial membrane. This opinion is founded on the following circumstances; 1. The cases to which we allude commenced, not with the usual latent and imperceptible disorder which is known to attend tubercular disorganization, but with more or less of the ordinary symptoms of cold, and a greater or less degree of the rapidity which is known to mark the accession of inflammatory disorders; 2. Their symptoms were of the sort that may be referred to mere inflammation, unaccompanied with tubercular deposition; 3. In the process of recovery no similarity can be traced to that which marks the recovery of distinct and unequivocal cases of tuberculated lung. We know, from the observations of Laennec and some others, that in a few cases the tubercular matter may be eliminated, and recovery may take place. But in the course of this process, which is tedious, none of the symptoms give way so rapidly as they did in the cases to which we allude; and after convalescence, the patients were always more or less liable to be influenced by any slight affection of the chest.*

We know not if we may venture to offer the same explanation of cures of consumptive symptoms treated on a different plan, and terminating favourably; and it is not unlikely, that we may cause many to think, that in our eagerness to explain, consistently with pathological principles, the success of the most opposite methods, we may destroy in some measure the strength of the evidence which we have already adduced. We allude particularly to those cases which are said to recover under what is termed the tonic treatment. To pass over the few examples recorded by May, the following may be regarded as the most imposing evidence. In the year 1801 Charles Pears, a surgeon in the neighbourhood of London, published reports of forty-nine cases termed pulmonary consumption (*phthisis pulmonalis*), treated according to what he terms the tonic plan; that is, with a liberal allowance of animal food, wine, &c., and with medicines supposed to possess a strengthening or stimulating power.* In his prescriptions, which are given at full length, gentian, either in infusion or powder, is a uniform ingredient, and valerian, nitre, spirits of nitrous ether, or opium, are frequent adjuncts. Bleeding he never employed, and he deprecates its use in the strongest terms; but a blister appears occasionally in his prescriptions,

* On Diseases of the Chest, p. 31.

† Cases of Phthisis Pulmonalis successfully treated upon the Tonic Plan, with Introductory Observations, by Charles Pears, F.M.S. &c. &c. Lond. 1801.

and ointment of tartrate of antimony was employed once.* Under this treatment, twenty one out of forty-nine cases were permanently restored (cured); eighteen refused to comply with treatment, which is very extraordinary; and only ten died. Of these last, the details of three only are given; in two of which the fatal event is ascribed to the intemperate and habitual use of spirits, and in the third to exposure to cold during treatment. Not much unlike is a species of treatment, which has been long pursued by a celebrated extraprofessional gentleman, and of which notice is now occasionally taken in the Journals.† Of these cases the particulars are not well known; but until more decided proof is adduced, that they depended on tubercular destruction, we think it is but fair to refer them to that form of disordered action which depends on bronchial inflammation.

It is not always however that this malady terminates so favourably, and that it is attended with local injury so trifling. In its mildest form, we have already seen that the pulmonary membrane is merely inflamed, and that one of the effects of this is to augment the quantity and change the quality of its mucous secretion. This process is not unfrequently attended with more serious morbid changes; and, in many cases, dissection has shown minute ulcers to be formed in the membrane. It does not appear that the process which terminates in ulceration of this membrane has been completely investigated, or that the mechanism of the formation of ulcers has been satisfactorily described. They are certainly not necessary to chronic inflammation; but it has been found, that they are most common in the persons of those whose occupation exposes them to inhalation of irritating mechanical powders. Such, for example, dissection has shown to be the state of the bronchial membrane in stone-cutters,‡ glass-grinders, needle-grinders,§ and the leather-dressers of Worcester.¶ In such circumstances, in which the presence of mechanical irritating substances excites inflammation, succeeded by suppuration, and more or less destruction of tissue, it may be supposed that the morbid action occasioned in this manner would subside, as soon as, by its own means, it had removed the cause of its action. The cases however of this kind which have been recorded, show, that though recovery occasionally takes place in the early stage, it is almost never effected after distinct suppuration has occurred.

We have less certain information on the nature of a form of ulcer considerably different, which may occur in the bronchial

* The 13th. † On the Tonic Treatment of Phthisis, by Dr John Hume, in the Quarterly Journal of Foreign Medicine, &c. No. 16, January 1823.

‡ Coschwitz de Spadone Hippocratis, in Haller Disputat. P. II. 47.

§ Johnstone of Worcester.

¶ Hastings, p. 281.

membrane. We allude to that in which the membrane becomes the seat of numerous minute eminences, which, as they pass through the several stages of inflammation, suppuration, and, finally, ulceration, may be regarded as pustules of the pulmonary mucous membrane. This disease is not unlike what is oftentimes observed to occur in the intestinal mucous membrane, where it occasions first a modification of diarrhoea, and afterwards assumes the form of dysentery. It may be regarded as inflammation taking place simultaneously or successively, in many minute points of the membrane, and passing, after a certain time, into the suppurative stage. The ulcers thus formed are in general round or oval, rarely irregular, with their margin slightly raised, and surrounded with a red circle (areola), more or less distinct. The matter expectorated consists of purulent fluid, streaked with blood, and mingled with a considerable proportion of dense mucus.

In the cases of this disease from which our information is derived, death had taken place after the usual symptoms of consumption had subsisted for some time; and as it is uncertain whether, in cases which terminated in recovery, but the subjects of which had finally been destroyed by other maladies, these minute ulcers of the bronchial membrane had previously existed, our evidence as to the sanability of this sort of injury is incomplete and unsatisfactory. Medical men have in general concluded, that, when patients with hectic fever and puriform expectoration have recovered, the bronchial membrane has been simply inflamed chronically, without ulceration or breach in the pulmonary tissue; and we find Dr Willan actually reasoning in this manner in a passage already quoted. That the pulmonary tissue had not been injured in such cases, is probable enough; but it is clear that this is merely matter of opinion, and that even the absence of ulceration of the bronchial membrane is not proved; and the circumstances to which we have already alluded show, that evidence of this conclusion is still wanting. We do not regard it as a pathological impossibility, for ulcers of the kind which we have described to undergo the healing process; and it appears equally probable, that a slight loss of substance thus produced, may be repaired under favourable circumstances, as in the case of an individual ulcer of any part of the bronchial or tracheal membrane. Are there recorded any cases, in which the usual symptoms of bronchial inflammation had, after some time, terminated in health, and in which, after death by another disease, many years after, the pulmonary mucous membrane had exhibited unequivocal traces of cicatrized pustular ulcers, similar

to those which are observed in the intestinal mucous membrane of persons who have recovered from dysentery?

We trust we have shown to what extent the position is true, that chronic catarrh is not necessarily a fatal disease; and that, whether it consists merely in inflammation, with augmented and vitiated secretion of mucus, or in ulceration of the membrane, it still may admit of being controlled by art, or may, in favourable circumstances, subside spontaneously. These conclusions are in perfect accordance with strict pathological observation. Yet it is notorious, that though several cases of chronic catarrh, or catarrhal consumption, actually recover, a great proportion terminate fatally, notwithstanding every thing that skill can suggest, or that art can perform. We therefore proceed to inquire into the circumstances which render this malady so intractable, and so generally fatal; and it will be found that they are to be referred to a greater or less degree of that change in the pulmonic structure, upon which, dissection informs us, depends the disease termed, by practical writers, chronic peripneumony.

When chronic catarrh has subsisted long, the inflammatory action extends from the mucous membrane to the submucous cellular tissue, which unites the bronchial tubes and vesicles to the serous or transparent membrane of the lungs. This is the proper *cellular*, not vesicular, tissue of the organ. At first, this action produces merely redness, with vascular congestion of the submucous tissue, or what the older pathologists termed infarction of the lungs. But, as the morbid state of the blood-vessels continues or increases, lymph, or lymphous fluid, is effused into the interstices of this tissue; the part loses its natural softness and elasticity; and as the bronchial tubes and vesicles are more or less compressed by this newly deposited substance, the lung loses its sponginess and lightness, which depended on the complete permeability of its vesicles. It is found, that a lung in which this chronic inflammation of the submucous tissue has existed for some time, presents the following phenomena. 1st, On opening the chest and admitting the air, though there are no adhesions, the lung does not collapse at all, or does so very slightly. 2d, The pulmonic substance which surrounds a portion of chronically inflamed membrane, becomes harder and denser than before, and does not float completely in water. If the induration is considerable or extensive, it sinks entirely. 3d, It loses its elasticity and compressibility, or cannot be inflated, and no longer crepitates, as in the healthy state, but resembles a portion of solid flesh.

This change of the pulmonic tissue was early observed by pathological anatomists; but we find the first distinct examples of it

in the writings of Morgagni* and Maximilian Stoll,† the last of whom recognized it in many individuals who had laboured under chronic inflammation of the lungs. It has been ascertained, by the observation of Dr Baillie, that this change is caused by accumulation of blood in the minute vessels of the part, and effusion, or extravasation, as he terms it, of coagulable lymph in the cells of the submucous tissue.‡ This deposition obviously produces two effects on the structure in which it takes place. It unites mutually the individual fibres or threads of which the pulmonic cellular tissue consists, and, by its presence, diminishes the space originally occupied by the compressible and elastic substance of the organ. The authorities to whom we have now referred, notice this change as if it were peculiar to inflammation of the lung, acute or chronic; and, strictly speaking, it forms the pathological character of this disease. It is not, however, confined to it; for it has been ascertained by Broussais, and more lately by Hastings, that it is a common consequence or accompaniment of chronic bronchial inflammation. Since the appearance of the writings of these authors, M. Laennec has described, under the head of peripneumony, three different degrees of it, and has distinguished them, 1st, according as the lung is red or violet, but crepitates and discharges, when cut, a frothy blood-coloured fluid; 2d, as the portion of lung is destitute of crepitation, and is red and granulated interiorly, without discharge of fluid when cut, unless squeezed; 3d, as it is consistent and granular, its section a pale yellow, or straw-colour, and as it discharges a considerable quantity of opaque, yellowish, viscid fluid, from many points of its cut surface.

It is the first of these states that is more generally observed to occur in the submucous pulmonic tissue, in the course of catarrhal consumption; for though the admission of air to the cavity of the pleura does not cause the lung to collapse, and on incision it appears firmer and more solid than natural, it nevertheless crepitates slightly, and even partially floats in water. In some examples, however, of chronic catarrh, the second degree of induration has been known to take place, and considerable portions of lung have been found, not only red, indurated, and consolidated, but granular, uncrepitating, and completely sinking in water. There is reason to believe that this extension of inflammation to the submucous pulmonic tissue, is the chief circumstance which determines the fatality and insanability of the disease. We have

* De Sedibus et Causis, Epist. XX. 3. 5. 22. 24. 20. 26. 36. 42. 47. 49. XXI. 26. 11. 27.

† Rationis Medendi, Pars I. 184. 202. II. 370. III. 364.

‡ Morbid Anatomy, p. 60.

already seen, that chronic catarrh is not of itself necessarily fatal; and recoveries frequently take place under circumstances favourable to the abatement or disappearance of the inflammation, when merely membranous; but when it extends to the subjacent, and affects the proper pulmonic tissue, it appears to be fixed in character, and obstinate against the usual remedies. The evidence may be reduced, we believe, to the following points.

1. In cases of increased and vitiated secretion of mucous, or muco-purulent fluid from the bronchial membrane, with the ordinary constitutional effects, the symptoms have gradually subsided, and the individuals have been restored. It is to be regretted, that on this point we have only negative evidence that the pulmonic tissue was not affected; for though the individuals may have presented the usual signs of peripneumony, the diagnostic mark of permeability of lung, or respirability ascertained by stethoscopic examination, has not been given. There is, however, reason to conclude, from the absence of the rational signs, as they are named, viz. quick breathing, orthopnoea, tightness, lividness of countenance, that this tissue was not, in the instances alluded to, seriously and permanently affected.

2. In cases of chronic catarrh, with the usual constitutional symptoms, which have resisted medical treatment, and gone on to fatal termination, it has been uniformly found that more or less chronic inflammation had existed in the submucous or pulmonic tissue. The most complete collection of cases with which we are acquainted, are those recorded by Broussais in the first volume of his work on the Chronic Inflammations. Of fifteen fatal cases of chronic catarrh, recorded by this author, only two presented the lungs entirely free from induration. In the other thirteen, an extent, more or less considerable, of one or both lobes, was hardened and solidified, and, when divided, presented a greater or less degree of this change. The truth of the same fact is satisfactorily demonstrated in the results of the fatal cases detailed by Dr Hastings in his *Essay on Bronchial Inflammation*. In the 1st, 2d, 5th, and 8th cases, the chronic membranous inflammation was combined with much consolidation of the lungs.

3. The next point requisite to illustrate the sanability of chronic catarrh when thus aggravated, consists in the possibility of recovery after the submucous tissue has been indurated, or at least of existence and continuance of vital processes, while induration more or less extensive has taken place. The consideration of this subject leads to some curious and not uninteresting consequences. We believe it will not require much argument to prove, that the existence of induration during life has, from a variety of causes, never been sufficiently attended to; nor has

any attempt to discover what characteristic symptoms it produces been made till very recently. This may appear singular to those who know that this change is neither more nor less than what ought to give rise to the symptoms ascribed by nosological authors to the disease termed peripneumony; for it might be concluded that these symptoms ought to take place in every case of induration, and consequently to indicate the pathological change. It is however certain, that in the most correctly detailed observations of the disease, such as those given by Broussais and Hastings, peripneumonic symptoms were not observable during life; and yet, after death, induration of portions of lung more or less considerable was discovered. In the case given by Dr Pearson already alluded to, the disease gave rise to distinct consumptive symptoms; and we think we have seen others exactly similar. We must therefore conclude, that the characters hitherto given by nosological authors, are insufficient to determine the presence or absence of the disease; and recourse ought therefore to be had to marks more decisive and less liable to ambiguity than these appear to be. In this difficulty there is reason to believe that stethoscopic examination furnishes the only accurate test by which the permeability or respirability of the lung can be ascertained during life; and unless the respiratory murmur is thus shown to be either much impaired or completely destroyed, it is impossible to conclude in any given case, whether the morbid effusion had disappeared or not.

We have now shown, by undoubted proofs, that chronic catarrh, when it has subsided for some time, is almost uniformly attended by induration of the pulmonic tissue, and more or less change in the structure necessary to the process of breathing. The next point of inquiry, is to examine the pathological changes which such consolidated structure undergoes, the effects to which it gives rise, and the question whether there is any possibility of removing it by remedies.

The induration of the pulmonic tissue, which is the result of chronic inflammation, might be expected, from what is observed in analogous circumstances, to terminate in suppurative or ulcerative destruction; and several authors appear disposed to consider this as a natural and frequent occurrence.* We are compelled, however, to say, that the instances of pulmonic disease hitherto correctly recorded, give little or no countenance to this opinion; and suppurative destruction of indurated lung appears to be one of the rarest occurrences almost that can happen. The

* On the Pathology of Consumptive Diseases. By John Abercrombie, M.D. Edin. Med. and Surg. Journal, vol. xviii. p. 22.

reason of this will appear very soon. The course which it pursues, we are inclined, from the collection of many cases, to consider as the following. After one portion of lung has become traversed by numerous red vessels, and is beginning to be hardened by effusion of lymph, it exercises an influence on the contiguous set of vessels, and produces more or less obstruction to the free transmission of blood through the part. The contiguous parts undergo the same change. This effect is augmented by slow and successive, but very certain steps, until a considerable portion of lung, which, in the natural state, is traversed by few and colourless capillaries, is at length crowded with a multitude of red vessels, in which blood is detained, and thus interrupts the healthy circulation of the organ. While lymph continues to be separated from the blood in these vessels, an analogous process takes place in the minute vessels of the general circulating system. Serous fluid begins to be effused in the cavity of the pleura and peritoneum, and into the cellular system in general, and the patient is cut off with the symptoms of general dropsy. So uniform is this mode of termination, that Broussais informs us he was almost invariably led to infer the existence of chronic catarrh and pulmonary induration, from observing œdematous swelling of the face or extremities, or even a slight tendency to this symptom.*

‘Those patients who had bivouacked in the mountains exposed to winds and snow, recovered with great difficulty. Several adynamic and ataxic fevers underwent no inconvenience; but all the catarrhs, whether simple or complicated, returned with new severity, and several died at the hospital of Bruck in which I was acting. I was unable to collect the exact history of all these catarrhs; but having opened the bodies, I satisfied myself that all those who coughed for $1\frac{1}{2}$ month or 2 months, who had several alternations of fever and apyrexia, and who died rapidly with slight œdema, had the lungs in that state of induration, which is termed *carnification*, or, by comparison with the liver, *hepatisation*.’ p. 79. Vol. I.

In another part of his work, when speaking of cases in which the tendency to œdematous swelling led him to employ diuretic remedies, he uses the following remarkable language.

‘Some of these patients having died, I hastened to examine their bodies, to discover the nature of that organism which expressed itself so indistinctly, and was astonished after five or six autopsies, to find invariably hepatised lungs. With some, the violence of the cough had prepared me for this; but there were

* P. 90. Phlegmasies Chroniques.

nevertheless several in whom I saw the effects of the disease, before I suspected its existence. I then observed with all possible attention those patients whose actual condition seemed to threaten a similar termination; and I discovered 10 or 12, who, after the usual course, did not, with return of appetite, recover strength, had straw-coloured complexion, and in whom rotundity of figure not referrible to corpulence, indicated a disposition to dropsy. With some of these, though by no means generally, the spleen appeared tumefied; but the most important symptom was a *dry night-cough*, of which only a few complained. To determine its real existence, I resolved to visit them at one or two in the morning, and then found that the patient, who in the morning was cheerful, and asserted that he scarcely coughed at all, had *slight heat, frequent pulse, the cheeks a little red, and a dry, sometimes very violent cough*. As I observed the progress of these chronic coughs, I now was convinced of the analogy between these patients, and those whose death had shown their lungs to be hepatised. All at once the face appeared infiltrated, especially at the eyelids; the hands and feet became oedematous; rattling breathing commenced, and the patient died in agony. Others became dropsical, and in a few days acquired an enormous bulk. All of them yielded to the force of the disease, and examination showed the principal lesion to be indurated lung and inflamed pleura.' pp. 105, 106. Vol. I.

The next point in this inquiry to which our attention is directed, is the question, whether hardening of pulmonary tissue is susceptible of removal, or whether, if this be not the case, it is possible for the individual to exist.

It appears that a small portion of lung may continue indurated, without necessarily destroying the individual; but in this case observation shows, that the process which gives rise to induration must be suspended or completely checked. If this process still continue, the induration extends, and at length occupies a great part, or the whole of one lung; and, in such circumstances, the usual consequences of induration rarely fail to appear.

The possibility of the removal of induration appears to depend very much on the particular degree or form in which this change has occurred. If it be merely in the first degree, as described by Laennec, we have decided proofs that it not unfrequently disappears, and that the tissue of the lung is restored. In this degree of induration, the change consists in the enlargement of the colourless vessels of the pulmonic or submucous tissue with blood, in the formation of many new vessels, and in the tardy motion or slow circulation of this fluid through

these capillaries. It is not difficult to see, from the usual phenomena of morbid actions, that there is nothing in this which may not be restored to its original condition. Under favourable circumstances, the blood may gradually retire from this set of capillaries, the vessels may contract, those that have been developed may disappear, and the entire structure of the part may be restored to its original and sound state. That this is possible, must be inferred from examples of peripneumony, in which the symptoms, as known from analogous cases, indicated the incipient hardening, and which have eventually recovered. That it is possible, must be inferred from the fact, that the stethoscope has, in some cases of catarrhal or peripneumonic disease, indicated engorgement, or induration in the first degree, and has subsequently indicated the gradual return of permeability of lung, and respirability with the disappearance of the symptoms. That it has actually taken place, may be inferred, we conceive, from various cases which have lately fallen under the observation of competent judges. On this head we refer to the 16th and 17th cases recorded by Broussais.*

When hardening of lung in the second degree has taken place, resolution or restoration implies a more complex process,—the disappearance not only of the enlarged and newly developed vessels, but the absorption of effused lymph. The first of these processes, we have already shown, is possible; but whether the second actually occurs, may be difficult to prove. That it is not impossible, may be inferred from the fact, that lymph which is effused in the formation of abscess, is gradually removed after suppuration, and seems to be absorbed; and also from what is observed to happen in recent effusions of lymph, which while fluid appear capable of being absorbed. But we cannot assert, that lymph which is deposited in the interstices of the submucous pulmonic tissue, is absorbed with equal rapidity and facility. Broussais appears inclined to think that it may, and quotes cases in which, though the symptoms led him to think this effusion had occurred, restoration was effected. The authority of Laennec, so far as relates to the mere change of structure, is still more positive. For he not only concludes, from many cases, that death takes place from exhaustion or general weakness, rather than in consequence of mere organic lesion, but states his opinion, that restoration may be effected without disorganization of the pulmonic tissue, even in the third stage of the morbid process, when purulent deposition has taken place.† He has not, however, examined the means by which this process of restoration

* *Phlegmasies Chroniques*, Tom. i. pp. 160 and 162.

† *On Diseases of the Chest*, &c. p. 50, Forbes's edition.

is effected, or attempted to trace the progress from the obstructed and engorged, to the healthy and free state of the pulmonary tissue. There is reason to believe, that, though possible, it is but a rare occurrence; and it is so much more difficult to render it a matter of certainty, that those cases only are examined, in which the lungs are most completely disorganized; and in those in which restoration is effected, we have no means but the stethoscope to determine the point. From instances, however, of this form of pulmonary disease, which have fallen either under our own observation or that of our friends, it appears, that a very copious discharge of purulent matter, with bloody streaks, takes place from the bronchial membrane for several days, sometimes weeks, while the effused fluids are removed from the pulmonic tissue, which becomes permeable; and if the general strength of the individual be not destroyed by the constitutional symptoms, recovery takes place at an earlier or later period.

[To be continued.]

Thoracic Percussion and Abdominal Pressure.

[Translated from the last edition of Desault's Surgical works, by Roux, into the Med. Chirurg. Review, Dec. 1823.]

Two distinct processes contribute to the advancement of practical medicine; reasoning and observation. The first, commonly exaggerated or premature, leads frequently to error; and hence doubtless it is that medicine has long been considered a conjectural science, destitute of certainty, and unworthy of credit: observation, on the other hand, an inexhaustible source of facts, presents invariably the image of truth—to those at least who are skilled in the inquiry.

Amid the numerous and infinitely varied derangements to which our frail organization is obnoxious, thoracic diseases have ever held a conspicuous rank, as well from their violence as from the frequent difficulty attendant on the discrimination of them. Hence the physicians of all ages have been anxiously employed in delineating their peculiar characters; and the sketch has been augmented or curtailed by successive observers, with the view of rendering it more unequivocal or concise.

The employment of percussion of the chest to elucidate the diagnosis of thoracic diseases, merits, amid these numerous efforts, particular notice. It was probably unknown to the ancients. This discovery, the honour of which is attributed to

Awenbrugger,* a physician of Vienna, long slumbered in the oblivion, to which, on the decease of its author, it had been consigned; till, in our days, revived by Corvisart. The advantages which he has derived from it are universally known; in his hands, it has become signally instrumental in removing the dense veil with which diseases of the thorax, particularly those of a chronic nature, have hitherto been obscured.

Bichat was admirably calculated by his genius to improve the science, upon which all the energies of his great mind were concentrated. From the dawn of his professional career, he sought, in treading the steps of his more illustrious predecessors, to establish, upon the results of observation and experience, the impregnable basis of his reputation. We are now contemplating his labours only as far as they regard our present subject. He confirmed many of the results obtained from percussion of the thorax: others assumed, in his view, a dubious aspect; and we shall presently see that he made a more correct and extensive application of them to the distinction of acute diseases.

The idea of abdominal pressure was suggested to him by a remark which physicians have long since made. It was observed that patients, suffering from hydrothorax, aneurism of the heart, and other organic lesions of the thorax, experienced a degree of uneasiness amounting to suffocation, whenever the stomach became distended. Hence [this symptom was considered as one in the series, essentially attendant upon these diseases.

If any other circumstance contribute to produce this phenomenon, it must principally arise from the mechanical distention of the abdominal parietes, and from the contraction of the thorax by the elevation of the diaphragm. Now, to effect this elevation in a prompt manner, by compressing from below upwards the epigastrium or hypochondria, according to the seat of the affection which is the object of our research; to watch attentively the effect produced upon the patient; and to apply the result of this manual experiment, in order to acquire a certainty of the existence of any particular disease;—in this consists abdominal pressure, as a new mean of aiding the diagnosis of thoracic maladies.

Were no greater advantages than those resulting from per-

* Awenbrugger published his discovery, and the results of his experience respecting its application, in a Latin work. Corvisart, some years since, promised a translation of it into French, illustrated by his own comments. We have long been inquiring for this publication, but cannot ascertain whether the design of the celebrated pathologist was ever carried into execution.

cussion of the chest offered by this process, the publication of it would be by no means destitute of utility, and this Memoir might be entitled to attention; for in diseases thus obscure, and characterized only by the assemblage of a number of signs which are all uncertain when separately viewed, any new feature or mean of diagnosis, added to the sum of those already known, must be favourably received. But abdominal pressure furnishes, in many cases, results more certain than percussion: and again, this last is more generally applicable to the discrimination of diseases than has hitherto been supposed. The development of these propositions constitutes the express object of our Memoir: in accomplishing it, we shall apply, in a comparative manner, these two methods to the investigation of the signs of acute and chronic affections of the chest. We begin with the first.

The interest which we feel in seizing the distinctive characters of the diseases affecting contiguous organs, when their difference of seat is not clearly established by the symptoms arising from them, can only be excited by the desire of classifying them in a rigid and precise manner, or by the necessity of instituting an important modification in their treatment. When these motives are combined, such anxiety is amply justified. This idea is naturally suggested by the numerous dissensions which have arisen upon the frequently agitated question—Exists there a pleurisy distinct from peripneumony? and, admitting that, can we by certain characters distinguish inflammation of the pleura from that of the lungs?

In the existing state of anatomical science, we can correctly appreciate all those reasonings, by the aid of which inflammations of the lungs, and of their membranous coverings, were, for a time, confounded in theory and practice, under the common idea of fluxion of the breast. We are now perfectly convinced, that organs, possessing a distinct structure and animated by a peculiar life, cannot correctly be confounded with regard to their morbid affections: and already many of those, who at first refused their assent to the preceding proposition, have relaxed from their severity in analogous cases, and been compelled, by the inspection of bodies, to acknowledge the existence of peritoneal inflammation distinct from that of the subjacent coats of the stomach, intestines, bladder, and hepatic structure; inflammation of the pericardium separate from that of the heart; and inflammation of the membranes of the brain, the substance of the latter organ remaining completely unaffected.

It must, however, be allowed, that, in the number of physicians who have pronounced a negative upon the foregoing question,* some have been influenced by the real or disputed observation of Servius; who says that upon the dissection of three hundred subjects dying at Rome of thoracic inflammation, he had invariably found congestion of the lungs, the pleura exhibiting no trace of previous inflammation. But whoever reflects properly upon this remark, admitting it to be correct, must perceive, that, far from being favourable to the opinion of the physicians in question, it, on the contrary, proves, first, that the substance of the lungs may be separately inflamed; secondly, that this condition is much more dangerous, and more frequently fatal, than inflammation of the pleura, since Servius, in his numerous dissections, observed not one instance of the latter disease.

Some of the older pathologists, and, in our times, Professors Corvisart and Pinel, have admitted the existence of pleuritic inflammation distinct from peripneumony. Now, to demonstrate the influence which a correct knowledge of the diagnosis of these two diseases may exert upon the judgment of the physician, and upon his treatment of them, is, in our opinion, the best justification of their researches that can be advanced.

In the first place, peripneumony must necessarily be more destructive than pleuritic inflammation. In fact, even had the observation of Servius, before alluded to, been wanting, that reasoning by which we have already been taught to conceive the possibility of their isolated existence, would surely induce us to augur more unfavourably of a case in which the substance of the lungs themselves is immediately affected, than of that in which it suffers only in a secondary manner, and from contiguity, as must necessarily happen in inflammation of the pleura.

Secondly, if however, on one hand, peripneumony be more impetuous in its progress; if it alarm more by the vehemence of its symptoms; yet, on the other, pleurisy is more formidable in its consequences. Thus, while we frequently see patients carried off in a few days by the intensity of the inflammatory action of the first, the second rarely proves fatal but by the formation of pus, which is one of its immediate consequences; or by the chronic inflammation, which readily becomes established, and soon terminates in serous effusion.

* Sennertus, Regius, Boerhaave, Hoffman, Bonetus, Morgagni, Haller, Cullen, Portal, are among the more celebrated of these writers.

Thirdly, it will be readily perceived, that two diseases, thus distinct in situation, may admit of certain modifications in their treatment. For example, does not local abstraction of blood offer peculiar advantages as a remedy in inflammation of the pleura, since part of this membrane lines the thoracic parietes, and has, doubtless, intimate connexions with the common integument? Actuated by this idea, Bichat gave an almost exclusive preference to the application of leeches upon the painful part of the chest. Frequently, when the inflammation ran high, he, soon after the application of them, covered the seat of pain with a sinapism or blister. The success resulting from this practice confirmed his opinions upon the inutility of general bleeding in pleuritic inflammation. On the contrary, the situation of the lungs, too deep within the chest to receive the influence of topical remedies; the fear of their excessive and inevitable fatal congestion; their intimate connexion with the circulation of the great vessels;—all these considerations authorize general abstraction of blood in peripneumony, and even call for its repeated employment, with the observance, however, of the prudent caution of not carrying it too far, if we would avoid the just reproach of the celebrated Morgagni: *Jam dictum, nullâ re magis in peripneumoniâ accellerari mortem, quàm sputi suppressione. Hæc autem sæpe accidit propter intempestivas, præsertim in senibus, missiones sanguinis: quanquam plures sunt medici qui ægros ob id interimunt, quia nesciunt ipsi quiescere.*

Do not the preceding observations shew the importance of accurately investigating the diagnostic signs of pleuritic and pneumonic inflammation? Certainly. And now, in the next place, let us inquire what respective utility the two processes of percussion of the chest and abdominal pressure may offer to us in this investigation.

The first, which in this as in other cases, is performed with the extremities of the fingers of one hand united, produces upon the diseased side, in *peripneumony*, a sound, of the obscurity of which one may best judge by comparing it to that which results from striking, in the same manner, the sound side of the thorax. In *pleurisy*, on the other hand, no difference can be perceived in the sound arising from percussion of the two thoracic cavities.

The absence of any sensible result from abdominal pressure exercised upon a patient, in whom the existence of pleurisy may be suspected, is contrasted, in a striking manner, with the involuntary cough, the profound oppression, and sense of suffocation; which are the sudden effects of this pressure exercised below the costal cartilages of the affected side, so as to ele-

vate the diaphragm, upon a subject in whom the combination of many other symptoms indicates the existence of inflammation of the lungs.

If, then, we find, united in the same patient, on the one hand, a clear sound of the painful side of the chest with insensibility of abdominal pressure; and, on the other hand, smallness and rapidity of respiration;—increased intensity of pain upon strong expiration,* because then the pleura participates the dilation of the thoracic parietes;—impracticability of lying long upon the affected side, because, in this situation, the lung must necessarily press upon the inflamed pleura, and augment the pain;—and, lastly, increase of this pain upon tolerably firm pressure of the intercostal spaces;—pleuritic inflammation is with certainty indicated. The fatal issue and dissection of a case exhibiting all these characters, have frequently confirmed to Bichat the accuracy of the opinion which he had previously delivered respecting it. To these phenomena we may further add the character of the pain which, in pleurisy, is poignant or somewhat lancinating: for, if there have been a period in the progress of science, in which it appeared ridiculous to assign a distinct character to the pain in pleuritic and pneumonic inflammation, the more profound attention with which the laws of our organization have since been studied, permits us, in these more enlightened days, to cherish no doubt upon the subject. In truth, we now know that each organ has its particular modification of pain, just as, in the natural state, the vital properties by which it is animated, display a peculiar character.

Peripneumony, again, is signalized by the following phenomena. The patient makes great efforts of inspiration, in order to supply the suspended functions of one part of the lungs. Here also expiration is painful, because the parietes of the thorax, in contracting, compress the inflamed organ in a greater degree, as the preceding inspiration has been more deep. The patient cannot lie down upon the sound side: now this phenomenon is presented, whenever the respiratory process is diminished in one of the lungs, as well in the case under consideration, as in hydrothorax. The pain is ordinarily deep and obtuse. Lastly, from what has been already observed, the suffocation, resulting from abdominal pressure, coincides, in peripneumony, with the obscure and dead sound obtained from percussion of the patient's chest.

* This is, we imagine, a typographical inaccuracy.—It should have been written *inspiration*.

It will be seen, that in presenting the sketch of the distinctive phenomena of two diseases, hitherto frequently confounded by physicians, we have solely kept in view their peculiar symptoms—in other words, those which necessarily result from the local affection. We call them peculiar or proper symptoms; because, in all diseases which have a determinate seat, this order of phenomena is first developed; and afterwards those resulting from the disturbance which is necessarily excited in neighbouring or contiguous organs. Thus, in pleurisy we have almost always cough and expectoration, simply mucous or streaked with blood. The hiccup and vomiting, the diarrhoea or costiveness, which arise in peritoneal inflammation, are again symptoms of this nature, dependant on the connexion of the inflamed membrane with the diaphragm, stomach and intestines. The same may be said of the phrenitis which induces delirium and other symptoms characterising disturbance of the cerebral functions. Moreover, local affections exert their sympathetic influence upon many of the principal organs remotely situated; and hence springs that series of general phenomena which we can only explain by referring them to those functions upon the disturbance of which they seem to depend. Thus, derangement of the digestive powers is announced by those gastric symptoms with which the principal phlegmasiæ, in their origin, are so frequently complicated: thus, the increased action of the heart, constituting the attendant fever, announces the influence which this organ receives from them: and the flushing of the cheeks, a phenomenon sufficiently common in peripneumony and phthisis, denotes some change in the capillary circulation. It is indeed proved by the momentary suppression or increase of some, and often many, of the exhalations and secretions in constitutional or local diseases, that these functions are influenced by the general commotions of the system. The same remark will apply, although less commonly, to the functions of animal life.

But all these symptoms, whether sympathetic or dependant upon the nearness or contiguity of organs in local diseases, are so variable, and present themselves under modifications so questionable, that no rigorous or precise data can be founded upon them. Much less can we avail ourselves of them to determine the character, or fix the diagnosis, of diseases; the distinct and isolated nature of which may be yet doubtful. Hence, I have ranged none of them among the characteristic phenomena of pleuritic or pulmonary inflammation. By Bichat, this distinction in the symptoms of diseases was first completely developed: others before him had but faintly and imperfectly surveyed this luminous doctrine. His ideas upon it were never

made public. Although perhaps defective in clearness and precision, they are here communicated with fidelity.

The long details into which we have been involuntarily drawn respecting pleurisy and peripneumony terminate here. We were prompted to this digression by the desire of combining the principal facts not recorded in the works of Bichat, as far as they are connected with our present object.

Notwithstanding the judicious remarks of Senac, Vicq D'Azyr, Cullen, Stoll, and others, inflammation of the serous membrane of the pericardium, denominated pericarditis, is yet a disease of character too uncertain and defective to invite discussion. Other circumstances, moreover, deter us from it. In the first place, Bichat possessed no opportunity of making any essential remark upon this disease. From his silence, it may even be doubted whether he had ever accurately observed its progress. Secondly, even supposing that a suspicion of its existence was excited by certain symptoms, we are by no means certain that any useful results, as regards the diagnosis, may be drawn from percussion of the chest and abdominal pressure.

Yet Bichat frequently observed the consequences of this inflammation; particularly the adhesions, more or less intimate, of the heart to the pericardium. These adhesions, of which the pathologist distinguishes several species, are analagous to those of the other serous membranes. Thus an opportunity was afforded him of verifying and confirming a remark, already made by several distinguished writers,* that these old and intimate adhesions may sometimes, by the restraint which they impose upon the actions of the heart, be mistaken for aneurisms of that organ.

By philosophic physicians, especially in later times, it has been admitted that a disease, however incurable in its nature, ought not the less to be well known and rigidly investigated: otherwise, in the uncertainty inseparable from confusion, we may direct against it remedies, which, although entitled to our confidence when judiciously employed, will, under opposite circumstances, prove pernicious to the patient. In this respect, medicine has indeed made, of late, considerable progress. Thus many forms of dropsy, so long regarded as diseases invariably idiopathic, and treated as such, have at last been found to result from internal changes of organic structure necessarily fatal, and to claim only the rank of secondary phenomena. Yet the very men who have acquired such honour in thus extending the circle of our knowledge, have not neglected to investigate

* Lower, Vieussens, Senac, Morgagni, Vicq-D'Azyr.

the signs by which, in difficult cases, these effusions may be distinguished. On the other hand, their efforts to attain this most essential object claim for them additional respect.

It is, nevertheless, necessary to guard against the baneful extremes into which by these views some practitioners have been led: we mean, the almost utter abandonment, or at least improper restriction, of the operations employed, formerly perhaps in too indiscriminate a manner, for the cure of various dropsies. Thus it is with all the great events and revolutions in medicine. Time alone teaches us to estimate properly their importance and extent, and apply correctly to practice the knowledge with which they furnish us.

Whether then it be our object merely to relieve for a time the sufferings of those doomed to inevitable death, and thus prolong existence to the utmost possible term, or to effect that which is but too rarely attained, a permanent cure, we may perhaps with advantage more frequently employ those operations destined to evacuate the serous or other effusions of the various cavities; and examples of the benefit resulting from them, when undertaken in the first view, are not wanting. Some author, whose name we do not recollect, mentions that a woman had thirty times undergone the operation for ascites. We remember, ourselves, to have seen it performed upon a lady, of twenty-six years, for the seventy-second time. She died on the ensuing day. The results of the dissection, time has effaced from our memory. Employed even as a mean of cure, the evacuation of the fluid of dropsy has not invariably failed of success. Fortunate cases of ascites, thus cured, are recorded by authors. We have seen a woman completely recovered after having eight times submitted to *paracentesis*. Examples of this success are, however, more rare with regard to hydrothorax. Yet there are some, the authenticity of which we cannot doubt. Among others, we may cite a very curious case communicated by Morand in the *Memoirs of the Academy of Surgery*.

Whatever then be the judgment which we form upon a case of effusion, and the treatment to be adopted, it is always necessary to distinguish correctly both its existence and its peculiar nature, in endeavouring to set up by nice observation a more complete assemblage of diagnostic phenomena.

The solidity of the parietes of the thorax, and their want of extensibility, are principal causes of the difficulty which we encounter in distinguishing the different collections, of which this cavity, as well as the pericardium, may be the seat. A penetrating and experienced eye may indeed, upon viewing an assemblage of indeterminate circumstances, recognize the existence

of effusion; but the generality of physicians can only acquire the decisive knowledge of the case by reiterated observation. For the last, then, it is useful to trace the certain characters of thoracic effusion. Before proceeding, we may remark that, although we treat here only of those spontaneous collections of which the pleura is susceptible, the ensuing observations may admit also of being applied to cases of sanguineous effusions of the chest, consequent upon the action of external violence.

Be it here observed, that the effusions which may take place in the pleura, do not all depend upon the same antecedent circumstances. Sometimes, for example, they succeed to pleurisy. In this case, the white flaky fluid is the product of the mode of suppuration, peculiar to serous membranes. Sometimes, a liquid is found somewhat different from the preceding; which may have its source either in chronic inflammation of the pleura, or result from a miliary eruption; a kind of morbid affection peculiar to these membranes; first slightly noticed by Morgagni, but since more frequently remarked by Bichat. Lastly, in the more common cases, hydrothorax, formed by a limpid and transparent fluid, is a phenomenon consequent upon the lesion of some neighbouring organ, and most frequently of the lungs or heart.

Although by authors a great number of signs, diagnostic of thoracic effusion, has been indicated; many of them are so uncertain that it would be difficult to found upon them exclusively, a decided opinion. It would be superfluous to repeat here what has been said, written, and repeated on this subject. We shall, therefore, claim attention only to three principal circumstances; which, when combined in a case, undoubtedly characterise the existence of thoracic effusion.

First. The patient can only lie down upon the side where the effusion exists; and the reason of this we indicated when speaking of peripneumonia (p. 574.) It is not because, in the opposite position, the effused fluid presses upon the mediastinum and thus contracts the sound cavity, as some have pretended. Still, this circumstance may contribute some little, although not in an absolute manner, to the production of this phenomenon.

Secondly. Percussion of the chest may offer, in this case, great advantages. The obscurity of sound which we obtain from this process, is indeed remarkable: and the extent of this obscurity will be proportionate to the quantity of accumulated fluid. In order to appreciate this circumstance correctly, and to exercise the percussion with success, it is necessary that the patient should be seated. The fluid is then contained in the

most depending part of the cavity. There, consequently, we must strike the chest upon its anterior, posterior, and lateral aspects, listening attentively to the sound, and comparing it, with that obtained by percussion of the other side of the chest. When the effusion is considerable, not only the result obtained is certain, but may be obtained to a very elevated part of the thoracic region. If, however, there be but little fluid in the pleura, the sound obtained may not be sufficiently obscure to admit of distinction from the natural state, or afford a sufficient ground of diagnosis. This inefficiency of percussion, in certain cases, joined to the fatigue which the patient experiences from the process, renders it a not invariably decisive means of diagnosis, especially in inexperienced hands: for it is a manœuvre which requires for its due performance a certain degree of practice. To this we may add, that with individuals of a corpulent habit, as with those of the female sex, the soft parts, covering the osseous parietes of the chest, absorb, in great part, sometimes even altogether, the strokes which it is our object to direct upon the latter.

Thirdly. If to the two phenomena just indicated, are united general agitation, cough, a sense of suffocation more or less considerable; originating from abdominal pressure exercised below the ribs of that side where the effusion is suspected to exist, so as absolutely to contract the cavity of the chest by an elevation of the diaphragm; we shall have acquired a certainty of the presence of fluid. And this will be especially the case, if we have duly acquainted ourselves with the circumstances which preceded the effusion, and the morbid affections to which the patient has been, and again may be, obnoxious. Any doubt upon the subject will still farther be diminished, if, notwithstanding the extremely equivocal character of the general symptoms, we find complicated with them habitual cough, smallness and concentration of the pulse, occasional syncope, and a lightly œdematous state of the integuments of the chest.

It may be suspected that, prejudiced in favour of abdominal pressure, we here give it an exclusive preference to percussion of the thorax. It is not so. We, on this subject, are delivering the ideas of Bichat rather than our own. His opinions were: first, that the former process possesses a decided superiority to the latter in certain cases where, as we have before observed, percussion, far from affording satisfactory results, may, on the other hand, mislead: secondly, that in other cases, where abdominal pressure does not offer the same advantages as percussion of the chest, it may yet always be regarded as a valuable resource in addition to the few we already possess:

thirdly, that under some circumstances, it is not exempt from inconveniences; the knowledge of which it is important to acquire. For example, when the abdomen is greatly distended by a co-existent ascites, or by an effusion of serum into the cellular membrane of its parietes, pressure on this region may afford very feeble diagnostic light; and sometimes no accurate conclusion can be drawn from it. In some cases, the quantity of fluid effused into the chest may be so considerable, that by depression of the diaphragm, the liver is made to project considerably; and hence the complaints of a patient, thus circumstanced, upon pressure of the right hypochondrium, may be such as to induce a suspicion that the hepatic organ is diseased; and divert the attention of the physician from the real malady. Bichat had once, in such a case, the satisfaction of proving, by evacuation of the fluid collected in the chest, the accuracy of an opinion previously delivered by him, but contradicted by a celebrated man; who, upon an incautious examination, had declared that the liver was the seat of the disease.

One way of concurring essentially to the progress of medicine is, rather to avow the different sources of error and difficulty, than conceal them. Thus the attention of the observer will be kept upon the alert even under circumstances the least uncertain. This truth should be yet more forcibly inculcated with respect to the extensive class of organic affections. Although reduced, as they now are, to certain well-known species in each organ or system of organs, they assume, nevertheless, such different forms, and shew themselves under so many dubious aspects, that we ought constantly to be on our guard in order to avoid those mistakes in which the obscurity, reigning over them, may involve us. Thus all the characters of thoracic effusion may exist with diseases of a completely opposite nature. Corsivart relates a case in which, upon the examination of the subject, who was supposed to have died of effusion into the chest, one of the sides of that cavity was found filled with a very dense substance, of new formation, and every where adherent to its parietes: Every vestige of the lung had disappeared.

Other chronic affections of the lungs, as phthisis and inveterate catarrh, do not admit of the application of abdominal pressure or percussion of the chest. We, therefore, proceed to consider the last order of diseases; for the discrimination of which, experience has shewn that these two processes may be usefully employed,—pericardiac dropsy and aneurism of the heart.

The first of these affections commonly originates from the same causes which induce hydrothorax: they are indeed com-

mon to all the serous membranes. But all the signs, hitherto pointed out as characteristic of it, have served only to deceive even the most judicious and profound observers. No physician, even at the present time, and with a combination of the greatest number of probable signs, will decidedly pledge his opinion upon the existence of pericardiac effusion. The difficulty of establishing certain rules of diagnosis in this case, ought not to surprise us. Deeply situated, and rendered by the solidity of the neighbouring parts, almost inaccessible to our scrutiny, the pericardium is yet farther removed than the pleura from every mean of investigation, except abdominal pressure.

On the other hand, almost all the symptoms, enumerated as diagnostic of this malady, belong equally to disturbance of the functions of the heart, from whatever cause originating; and these causes may readily be confounded in practice. Yet, one important remark may here be made: no *permanent* and *uninterrupted* disturbance can exist in any viscus, independently on organic lesion, unless it be determined by some constitutional peculiarity of the individual in whom it occurs. In truth, every derangement of the functions of the heart, arising from a remote cause, is transitory as the influence of that cause by which it has been determined. It remains for us then to inquire, when the existence of organic disease is suspected, whether such disease be pericardiac dropsy or aneurism of the heart.

In the first place, it sometimes, although perhaps rarely happens, that the two diseases are complicated. Under these circumstances, we must direct our attention to the principal malady: It may be difficult to distinguish the secondary affection.

But more frequently, the substance of the heart itself being free from disease, the pericardium is filled consecutively with respect to the affection of some remote organ; as, for instance, one of the abdominal viscera. At other times, the effusion is preceded by symptoms of pericarditis. Again, the serous accumulation may, in certain cases, depend upon a peculiar affection of the pericardiac membrane, as a miliary eruption.

Under any of these three last circumstances, it becomes most important accurately to distinguish dropsy of the pericardium. Of the uncertainty of the signs, generally supposed to indicate it, we cannot be more deeply convinced than by meditating upon the two cases which Desault has recorded. In one of these, the symptoms, experienced by the patient, induced a suspicion of pericardiac effusion; and on the death of the subject, which followed the evacuation of the fluid by Desault, an extensive cyst was found adhering to the pericardium. In the other case, pericardiac dropsy was not detected till the decease of the patient, who was destroyed by an adventitious malady.

Percussion of the chest is not applicable to these cases; since, even in the natural state, the region occupied by the heart and its membranes, yields an obscure sound. Nevertheless, should the pericardium be very greatly dilated by the effused fluid, some opinion may be formed, from the unusual extent of this obscurity. Here then abdominal pressure claims a decided superiority; and, upon the *epigastrium*, it will be most effectually exercised. In that situation, the pericardium adheres to the tendinous centre of the diaphragm; and is consequently very near the parietes of the abdomen. Pressure also is more readily practised here than on the hypochondriac regions, on account of the hollow presented by the base of the thorax. Executed upon the principles already indicated, it augments in pericardiac dropsy, as in some other affections of the breast, the dyspnœa and sense of suffocation; and more especially denotes the disease by inducing sudden agitation of the heart and remote arteries and sometimes syncope. These phenomena subside or re-appear as the pressure is discontinued or renewed.

In all these researches, an accurate acquaintance with the circumstances which have preceded the actual state of the patient is necessary. A woman had an affection of the spleen, consequent upon a quartan intermittent fever. The abdomen swelled; and dubious symptoms of pericardiac effusion were soon manifested. Bichat practised abdominal pressure; and assured himself of the existence of that malady. The death of the patient enabled him to confirm, beyond all doubt, this opinion.

It seems that Bichat frequently preferred abdominal pressure to percussion of the chest, as an instrument of diagnosis in diseases of the heart. Yet it must be allowed, that neither of these processes can be so usefully applied to such diseases as to the elucidation of certain other cases in which we have considered their employment and relative advantages. As auxiliaries to the precise means of discrimination in cardiac maladies which we, of late years, have acquired, they are, however, entitled to our notice.

In dilatation of the heart, we obtain by percussion an extremely obscure sound of the chest, corresponding in extent to the degree of dilatation. The certainty of this result, in most cases, cannot be denied. Yet Bichat had remarked, that, in some patients exhibiting all the characters of *considerable* dilatation, the obscurity of sound was limited to a very *narrow* space; and this unusual result, he suspected, might be caused by the application of a portion of the lung upon the anterior surface of the pericardium. Hence, he was led to combine abdominal pressure with percussion of the chest; or entirely substitute the former for the

latter. Pressure, however, can in this way be employed with advantage only when the dilated heart has acquired a certain volume.

But if it be exercised under circumstances favourable to its application, and in the manner as directed in cases of pericardiac dropsy, the patient experiences a distress resembling that which results from the horizontal posture. The suffocation, and lividity of the lips and countenance, increase in proportion to the degree of pressure; the contractions of the heart become stronger: Indeed, such is the state of uneasiness and restraint suffered by patients, as well with diseased heart as with thoracic effusion, upon whom this pressure is practised, that they all dreaded the visit of Bichat, apprehensive that he might torture them by a repetition of the experiment.

In closing our translation of this Memoir, we cannot but express a hope, that the British reader may glean from it some practical hints of value. Yet, favourable as we, on the whole, are induced to think of the processes therein recommended for elucidating the diagnosis of certain thoracic maladies, truth claims the acknowledgment, that we have not been able to derive from them all those decisive results of which they seem to have been productive in the hands of the more fortunate continental physicians.

INTELLIGENCE.

MASSACHUSETTS MEDICAL SOCIETY.

At the annual meeting of the Massachusetts Medical Society, June 2d, 1824, the following gentlemen were elected counselors for the ensuing year, to wit:

Suffolk.—Doctors David Townsend, Thomas Welsh, Aaron Dexter, William Spooner, Asa Bullard, John G. Coffin, John Dixwell, James Jackson, Benjamin Shurtleff, John C. Warren, John Gorham, John Randall, George C. Shattuck, John B. Brown, Walter Channing, Jacob Bigelow, George Hayward.

Essex.—Doctors Edward A. Holyoke, Benjamin L. Oliver, John D. Treadwell, Oliver Prescott, James Gardner, Richard Hazeltine, Nathaniel Bradstreet, Nehemiah Cleaveland, Joseph Kittredge.

Middlesex.—Doctors John Brooks, Amos Bancroft, Isaac
Vol. XIII.

Hurd, Calvin Thomas, Abiel Heywood, Rufus Wyman, James P. Chaplin, Thomas Bucklin, John Walton, Abraham R. Thompson.

Hampshire.—Doctors Elihu Dwight, Enos Smith, William Hooker, Joseph H. Flint, Seth Lathrop, Alpheus F. Stone, Stephen W. Williams.

Berkshire.—Doctors Asa Burbank, Daniel Collins, Benjamin Rogers, Henry H. Childs, William H. Tyler, Robert Worthington.

Worcester.—Doctors Abraham Haskell, John Green, Stephen Batchelder, jun. Daniel Thurber, Jacob Holmes, John Homans.

Norfolk.—Doctors Amos Holbrook, Nathaniel Miller, John Bartlett, Robert Thaxter, Samuel Bugbee, Jeremy Stimpson.

Plymouth.—Doctors Hector Orr, Cushing Otis, Nathan Hayward.

Bristol and Barnstable.—Doctors Benjamin Billings, Artemas Johnson, Alexander Reed, Josiah Batchelder.

The Discourse, by Robert Thaxter, M.D. of Dorchester, was read at 1 P.M.

At a stated meeting of the Counsellors of the Massachusetts Medical Society, June 3d, 1824, the following gentlemen were chosen officers for the ensuing year, to wit :

JOHN BROOKS, M.D. *President.*

JAMES JACKSON, M.D. *Vice-President.*

JOHN DIXWELL, M.D. *Corresponding Secretary.*

JOHN GORHAM, M.D. *Recording Secretary.*

JACOB BIGELOW, M.D. *Treasurer.*

WALTER CHANNING, M.D. *Librarian.*

CENSORS

For the First Medical District, and Society at large.

Doctors John Dixwell, John G. Coffin, James P. Chaplin, Rufus Wyman, John Gorham.

Second Medical District.

Doctors John Green, Abraham Haskell, jun. John Homans, Edward Flint, Benjamin F. Heywood.

Third Medical District.

Doctors Elihu Dwight, William Hooker, Joseph H. Flint, Daniel Collins, David Hunt.

Fourth Medical District.

Doctors Asa Burbank, Benjamin Rogers, John Delamater, A. Perry, Charles Worthington.

Among other business which came before the Counsellors was a report of a committee appointed at the preceding meeting of the counsellors to consider, 'What reasons and circumstances should be regarded as sufficient to authorize resignation of fellowship.' The following is the substance of that report :

1st. When the applicant has discontinued altogether his practice as physician, or surgeon.

2d. When the applicant states that his health has been such as to prevent him from engaging in his professional duties for a year or more, and that he has not any reasonable hope of being able to resume them.

3d. When his age is such as to disqualify him from an active attention to his professional business.

The Committee recommended, 'That any Fellow applying for leave to resign his fellowship, and stating that he has passed his *sixtieth* year, and that he finds it inconvenient to maintain his connexion with the Society, shall be permitted to resign.' This report was accepted.

Medical School in Boston.—The Medical Lectures in Boston, will commence on the third Wednesday in November.

Anatomy and Surgery, by Dr Warren.

Chemistry, by Dr Gorham.

Midwifery and Medical Jurisprudence, by Dr Channing.

Materia Medica, by Dr Bigelow.

Theory and Practice of Physic, by Dr Jackson.

The Massachusetts General Hospital, one of the most active and flourishing institutions in the United States, has received within a few years more than *three hundred thousand dollars* in private donations, in addition to its previous very liberal endowment from the State legislature. The number of surgical operations of magnitude performed in this hospital within the last two years and nine months, amount to *one hundred and twenty*. Gentlemen attending the medical lectures, are admitted *gratuitously* to the surgical operations and clinical practice of this institution. A class of students exceeding one hundred, from different parts of the United States, attended the last course.

A pamphlet, containing a particular account of the Boston Medical School, and Hospital, is published for gratuitous distribution, and will be forwarded to any person, on his addressing a letter, post paid, to Mr Leonard Holmes, of the Post Office, Boston.—*Col. Centinel*.

Lectures on Medical Jurisprudence.—Dr Hale of this city, intends, in the course of the ensuing autumn and winter, to repeat

his course of Lectures upon Medical Jurisprudence. To those who attended the course delivered the last winter by this gentleman, or who are acquainted with the long and patient investigation which he has given to this subject, it would be needless to recommend them. It is no more than justice to Dr Hale, however, to say, that his lectures evinced an extensive and thorough acquaintance with the science which he taught, and could not be attended without interest and improvement either by the lawyer or physician. Medical jurisprudence has been unhappily too much neglected among us, and the proceedings in our courts, in cases where questions of medical evidence are agitated, are frequently such as to do little credit to either profession. We hope the lectures of Dr Hale will have the effect of exciting attention to so important a subject.

Coxe's Memoria Medica.—Dr Coxe of the University of Pennsylvania proposes to publish a work with the above title, in three volumes, which is to form a universal book of reference on medical subjects and those connected with it. The subjects are to be arranged alphabetically. Under each are recorded references to the various works which contain any facts or information with regard to it, each reference being preceded by a few words explaining the nature of the information contained in the place referred to. 'The utility of such a work,' says Dr Coxe in his advertisement, 'will be apparent, when reading on any particular subject, by enabling us at once to refer to authorities on the same topic. It is still more obvious in case of writing. The numerous isolated facts, &c. become thus placed as it were, within our reach, without the trouble of seeking for them, in some measure at random, throughout the immense number of works which we possess, to the loss of much time and sometimes even unsuccessfully.'

Prize Questions of the N. Y. Medical Society.—The committee appointed to report Prize Questions to this Society, and who are also by the terms of their appointment, 'directed to offer at least five subjects, in order that the Society may select therefrom such as to them may be the most interesting.'—Report,

That the following would be proper to offer as prize questions to the Medical profession throughout this state.

1. The History, Causes, and Treatment of Hooping Cough.
2. The History, Causes, and Treatment of Croup.
3. The History, Causes, and Treatment of Dropsy.
4. The Remote and Exciting Causes of Phthisis Pulmonalis.
5. The Medical use and effects of the Sanguinaria Canadensis.

The committee further report, that the following regulations would be proper in offering the above subjects to the notice of the profession.

1. That in treating of the diseases mentioned above, it be required, that particular attention be paid to their history, nature, and causes in this state.

2. That the prize offered, be in each case Fifty Dollars.

3. That the Secretary give public notice of the subjects offered, on or before the first of March next.

4. That the Dissertations offered for premiums be forwarded to Albany, on or before the 1st of January next.

That they be accompanied with a sealed paper containing the name of the author, and that this sealed paper, as well as the Dissertation, be endorsed with the same motto, in order that the name of the successful author alone may be ascertained.

5. That be a committee to examine and report on the Dissertations that may be presented.

6. That it be understood, that the Society is at liberty to dispense with the adjudication of any premiums, provided the Dissertations presented to the committee, may not, by them, be deemed worthy.

Resolved, That the above report be accepted, and that the following be the subjects of prize questions, viz. :

1. The History, Causes, and Treatment of Hooping Cough.

2. The remote and exciting causes of Phthisis.

Resolved, That a committee of three be appointed, who, together with the President and Vice President, who shall be *ex officio* members, shall constitute the committee of adjudication; and that Drs T. R. Beck, James R. Manley, and Peter Wendell, be that committee.

Increase of Medical Colleges.—At the annual meeting of the New York Medical Society, the following resolutions were passed.

Resolved, That in the opinion of this Society, the increase of Medical Colleges in this State, is not required for the public good; and that it would be decidedly injurious to the best interests of the profession at present, to charter any additional medical schools.

Resolved, That a copy of the foregoing resolution, signed by the President and Secretary, be transmitted to the Honourable the board of Regents, at their next meeting.

List of New Publications.

AMERICAN WORKS.

The Elements of Therapeutics and Materia Medica, by N. Chapman, M.D. Third edition, revised and much improved. 2 vols. 8vo. Philadelphia. H. C. Cary and I. Lea.

Essays on various subjects of Medical Science, by David Hosack, M.D. F.R.S. L. & E. &c. &c. 2 vols. 8vo. New York.

Observations on Lake Fevers and other diseases of the Genesee country, in the state of New York. By Edward G. Ludlow. New York. J. Seymour. pp. 49.

Some account of the Medical School in Boston, and of the Massachusetts General Hospital. Boston. pp. 16.

[This pamphlet is published for distribution, and may be obtained at the Bookstore of Cummings, Hilliard & Co.]

Dissertations on Cynanche Trachealis or Croup; and on the functions of the extreme capillary vessels in health and disease; to which were awarded the Boylston Premiums for the years 1820 and 1823. By William Sweetser, M.D. Fellow of the Massachusetts Medical Society. Boston: Cummings, Hilliard & Co. pp. 123.

Medical Dissertation on the Diagnosis and Treatment of Pertussis or Chin Cough, which obtained the Boylston Premium for 1822. By Abel L. Peirson, M.D. Salem: Whipple & Lawrence.

An Examination of 'Essays on Fevers, and other medical subjects, by Thomas Miner, M.D. and William Tully, M.D.' With some observations on their doctrines and practice, by J. L. Comstock, M.D. Hartford. pp. 64. 1824.

Criticism on Dr Washington's Essay on Yellow Fever. By Thomas Henderson, Fellow of the Medical Society of the District of Columbia. Georgetown, D.C. James C. Dunn. 8vo. pp. 25. 1824.

A Practical Essay on Typhous Fever. By Nathan Smith, M.D. Professor of the Theory and Practice of Physic and Surgery in Yale College. New York. Bliss & White. pp. 85. 8vo. 1824.

Elements of Phrenology. By Charles Caldwell, M.D. Professor of the Institutes of Medicine and Clinical Practice in Transylvania University. Lexington, Ky. 8vo. pp. 100. 1824.

IN PRESS.

Lectures on Various branches of Natural History. By the late Professor Peck of Harvard University. Boston.

Florula Bostoniensis. By Jacob Bigelow, M.D. Rumford Professor and Professor of Materia Medica in Harvard University. Boston.

A System of Midwifery, By W. P. Dewees, M.D. In one large volume, 8vo. with plates. Philadelphia.

Essays on the Variolous, Vaccine and Varioloid Diseases. By N. Chapman, M.D. 8vo. Philadelphia.

Chapman on Fever. 8vo. Philadelphia.

Elements of the Etiology and Philosophy of Epidemics. In two parts. By Joseph Mather Smith, M.D. New York.

AMERICAN EDITIONS OF FOREIGN WORKS.

MORGAGNI on the Seats and Causes of Diseases, abridged, and elucidated with copious notes. By W. Cooke, member of the Royal College of Surgeons, London, and of the Hunterian Society. 2 vols. 8vo. pp. 518, and 661. [The plan of this work is excellent, and capable of being made extensively useful. Some account of the manner in which it is executed will be given in a future number.]

A short Treatise on Operative Surgery; by Charles Averill, with additions, by John Bell, M.D.

The Philosophy of Natural History, by William Smellie, with an introduction and various additions and alterations, intended to adapt it to the present state of knowledge, by John Ware, M.D.

Observations on the diseases of Females which are attended by discharges; illustrated by copper plates of the diseases, &c. by Charles Mansfield Clarke.

Medico Chirurgical Review and Journal of Medical Science, conducted by James Johnson, M.D. No. XI.

FOREIGN WORKS.

Transactions of the Associated Apothecaries of England and Wales, vol. 1, 8vo. p. 594.

Transactions of the Medico-Chirurg. Society of Edinburgh. Instituted Aug. 1821, vol. 1.

Observations illustrative of the History and Treatment of Chronic Debility, the prolific source of Indigestion, Spasmodic disease, and various nervous affections. By Wm. Shearman, M.D. &c. &c. 8vo. p. 255.

An engraved representation of the Anatomy of the Human Ear, with explanations and surgical remarks on introducing the probe and catheter into the eustachian tube, through the nostril, &c. by Thomas Buchanan. Fol. 2 plates, p. 40.

On the nature and treatment of the Distortions to which the Spine and the bones of the chest are subject. By John Shaw. 8vo. p. 293.

Pathological Observations on the Rotated or Contorted Spine, commonly called lateral curvature, deduced from practice, by Andrew Dods, M.D. 8vo. p. 239.

An Inquiry into the Causes of the Curvature of the Spine, with suggestions as to the best means of preventing, or when formed, of removing, lateral curvature. By T. Jarrold, M.D. London, 8vo. p. 147.

Engravings illustrative of the above work, 13 folio plates, containing 34 figures.

An Essay on an improved method of cutting for urinary calculi,

or the posterior operation for lithotomy. By W. W. Sleight, Lecturer on Anatomy and Surgery in London. 8vo. p. 106.

Practical Observations on the removal of every species and variety of cataract, by Hyalonoxis, or vitreous operation. By John Bowen, M.D. &c. &c. 8vo. p. 10.

A System of Anatomical Plates; accompanied with descriptions, and physiological and pathological observations. By John Lizars, Part I. bones; Parts II. and III. blood-vessels and nerves; Part IV. muscles of the trunk. Folio. Edinburgh.

Plate I. of a Series of Engravings, with explanations, designed as practical illustrations of the surgical anatomy of the blood-vessels, nerves, &c. relating to amputation. By Thomas Alcock, Esq.

General Anatomy applied to physiology and Medicine, by X. Bichat. Trd. by Constant Coffyn, and revised by George Calvert, Esq. Part I. including the two first volumes. 8vo. p. 800.

Observations on fractures of the neck of the thigh bone, being an Appendix to the work on dislocations and fractures of the joints. By Sir Astley Cooper, 4to. London.

Practical remarks on fractures at the upper part of the thigh, and particularly fractures within the capsular ligament; with critical remarks on Sir A. Cooper's treatise on that subject, &c. &c. By Henry Earle, F.R.S. &c. 8vo. London.

Observations on Strictures of the Rectum and Colon, and other affections which diminish the capacity of the intestinal canal in those parts. By W. White, of Bath, 4th edition, with plates, 8vo. p. 217. London.

NOTICE.

THE New-England Journal of Medicine and Surgery will in future be conducted jointly by the subscribers, who have previously formed part of the Association, by which it has been hitherto supported. The other gentlemen of the Association have relinquished all share in its management, and are to be considered as entirely free from any responsibility with regard to the manner in which it shall be conducted. The present Editors, however, have reason to believe, that as individuals, they will still continue to manifest an interest in its success, and contribute by their labours to its reputation and usefulness.

WALTER CHANNING, jun.
JOHN WARE.

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No. IV.

Remarks on the Nature and Treatment of Puerperal Convulsions. By DR NORMAN LYMAN.*

[Communicated for the New-England Journal of Medicine, &c.]

MY object, in the following paper, is to offer a few remarks respecting the nature of Puerperal Convulsions, and the proper method of treating the complaint. Though in some instances, this disease has appeared to be endemic, in general it is of very rare occurrence. Perhaps it is chiefly on this account, that its pathology has been so ill understood, and that even the best writers on the subject, have differed so materially in relation to its treatment. But few writers on midwifery, so far as I have known, have hazarded an opinion respecting the nature and causes of this disease; and it is certainly a subject of regret, that when women, who have died of puerperal convulsions, have been made the subjects of post mortem examination, morbid appearances have generally been looked for only in the brain. It is difficult to account for this circumstance, for it would seem natural to conclude, that a disease which takes place only in advanced gestation, or labour, should owe its origin to some peculiar state of the pelvic or abdominal viscera.

In relation to the treatment of this disease, almost all agree in the propriety of blood-letting, but, in several other points, of great practical importance, their opinions are entirely at va-

* This Essay contains the substance of a paper read before the Hartford County Medical Society, in April 1823. The notes and cases have been added, and some other slight alterations made in preparing it for the press.

riance with each other. Some writers, supposing the disease to depend on irritation, have directed that bleeding should be followed by full doses of opium and other antispasmodics. By others, who regard the disease as related to apoplexy, and depending on compression of the brain, opium and other remedies of the same class, are indiscriminately condemned, as useless and dangerous. By one class of writers we are taught that the safety of the patient depends on speedy delivery, and are advised to expedite it by art, as early in labour as is practicable. By others, again, all artificial assistance in labour is supposed to increase irritation, and generally, to add to the danger of the patient. It may also be remarked, that those writers who have treated on this species of convulsion, have often given their directions for its treatment, in so general a manner, and with so little reference to the several stages and varieties of the disease, that they often serve rather to perplex than to assist us in practice.*

The suddenness with which these convulsions often make their attack, and the danger which always attends them, require that the symptoms be readily known, and promptly met. I deem it superfluous to describe, particularly, the peculiar symptoms of this species of convulsions. The writings of Burns, Denman, and several others, contain descriptions of them, so accurate and particular, as scarcely to leave room for any addition. But it has appeared to the writer, to be both desirable and practicable, to arrive at more definite views of the nature of the disease, than have yet been attained, and to determine, with more precision than has hitherto been done, the mode of treatment which is best adapted to its several stages and varieties.

That there is a species of convulsion which is evidently connected with gestation or labour, and which occurs at no other time, is a point, in which, so far as I know, all competent authorities are agreed. What then are those changes in the female constitution, connected with pregnancy, on which the tendency to puerperal convulsions depends? By what precursory symptoms may we be able to anticipate an attack of the

* At the time this paper was written, I had not seen Doctor Dewees' Essay on puerperal convulsions. Soon afterwards, a medical friend, put into my hands the third number of the Medical Recorder, which contains this essay. I think it a very valuable treatise, and worthy of the eminent talents and extensive experience of its author; yet I cannot but consider his remark as too unlimited, when he mentions 'the use, the fatal use of opium.' He cannot be more convinced than I am, of its injurious tendency, when used before suitable evacuations, or when used at all, in those convulsions, which are produced by compression of the brain. Yet I believe many cases of puerperal convulsions will occur, in which opium is an indispensable remedy.

disease? and what treatment is best adapted to its prevention and its cure? To answer these enquiries, is the object of the following remarks; they are offered with diffidence, and it is hoped, they will be received with indulgence.

We may suppose the first effect of conception to be an increased excitement of the uterus, in consequence of which it commences a new action, acquires new susceptibilities, and establishes new sympathies. The uterus thus excited, becomes a source of irritation to the system, and hence, generally, the first obvious symptom of pregnancy, is a vascular excitement, 'resembling the sympathetic fever, which attends chronic inflammation of an internal organ.' This state of both local and general excitement, seems to be indispensable to the process of gestation. A material defect of either, will be attended with sterility or early abortion. We conclude then, that the complaints of early gestation, owe their origin in part, to increased nervous and vascular excitement, and, in part, to that interruption of their functions, which the different organs suffer from sympathy with the uterus. In some women, the excitement which attends gestation, instead of producing serious inconvenience, is rather promotive of more perfect health. Few women, however, pass through the early months of pregnancy, without many uneasy sensations, and, in many, the symptoms amount to serious disease. The more ordinary effects of uterine irritation, are frequency of pulse, heat of the surface, especially at evening, watchfulness, or unrefreshing sleep, emaciation, irritability of the stomach, and costiveness. These complaints, it is well known, are generally much more severe, in the early months of gestation. Along with the symptoms above mentioned, pregnant women have often a peculiar irritability or nervousness, which renders them liable to strong impressions, from slight causes. This irritability, seems to have been considered by some writers on midwifery, as the predisposing cause of puerperal convulsions, but I know of no facts to support this opinion. The disease in question, is not peculiar to feeble or irritable women. On the contrary, so far as I have observed, it takes place more frequently, among the robust and healthy. The symptoms of uterine irritation, as already observed, are generally much the most severe, in the early months of gestation; while convulsions attack, only in its more advanced stages. Experience has fully shown, that the symptoms above alluded to, are not generally to be regarded as dangerous. In women otherwise healthy, they rather denote an exemption from more alarming complaints. They appear to be connected with a vigorous action of the uterus, and, on that account, afford an

evidence that the process of gestation is going on favourably. It is only when they are so severe, or so long continued, as greatly to exhaust the constitution, or when they occur in subjects previously feeble and debilitated, that they afford any ground of apprehension.

So far as my observation has extended, it has appeared, that robust and healthy women, who have suffered from puerperal convulsions have generally enjoyed in the early months, a marked exemption from the ordinary complaints of pregnancy. Instead of being emaciated, they have become more corpulent, and it was only in the latter months of gestation, that they discovered any symptoms which indicate a tendency to the disease. Those, on the contrary, who are constitutionally feeble and nervous, have suffered severely from uterine irritation, through the whole period of pregnancy. Particularly are they liable to excessive irritability of stomach, and to pains of the back which seem to threaten abortion.

For the sake of distinctness, we will first notice those precursory symptoms, which take place antecedently to labour, and, afterwards mention such as occur during labour, or after its conclusion. Among the first class are inappetence, despondency, obtuse pains of the head, back, or hypochondria, occasional vertigo or confusion of mind, obstinate costiveness, alternating, perhaps, with diarrhœa, cellular effusion, and a full and slow pulse. More or less of these symptoms, with different degrees of severity, often continue for days, and perhaps, for weeks, or months. So far as I have observed, they are more uniform, more strongly marked, and of longer duration, when the convulsion attacks before the commencement of labour. The symptoms of the second class are violent pulsating pain of the forehead, sometimes immediately preceding or following the uterine contraction; at other times, alternating with the uterine efforts, and seeming to take place of them. This pain of the head, is often attended with indistinct vision, or total blindness, and not unfrequently, with a vomiting of viscid mucus or bile. At the same time, there is, generally, a remarkable sluggishness of pulse, and the uterine contractions, are either irregular in frequency and force, or, if apparently regular, they do not seem to produce an effect, proportionate to the severity of the pains. More rarely, convulsions attack without any warning, or are preceded, for a short time, by a violent shaking of the muscles, or great sickness or pain of the stomach.

From a view of all the symptoms, connected with puerperal convulsions, I am led to conclude, that they result from plethora, or rather from deficient absorption. When I speak of plethora,

as a cause of this disease, I do not mean by it, a mere redundancy of circulating fluids, but rather an unnatural distribution of them. I suppose that the action of the arterial system, so far exceeds that of the venous, that an unnatural accumulation takes place in the latter. In women who are naturally robust and healthy, the arterial excitement, which attends gestation, aided by habitual costiveness, and neglect of customary exercise, must tend powerfully to produce congestions of the abdominal viscera. It also seems worthy of remark, that with women of impaired constitution, and with such as are naturally feeble and debilitated, the uterine excitement, which attends gestation, is often too expensive for the resources of the system. In proportion to this excitement, the organs concerned in digestion and assimilation, are interrupted in their functions. Hence, as already remarked, these patients suffer much from uterine irritation, in the early months of pregnancy; and towards its conclusion, the symptoms of irritation frequently give place to those of congestion, or at least become complicated with them. An increasing debility is at length manifested in a deficient action of the absorbents, which seem to possess weaker vital powers than the exhaling vessels, and to fall more readily into disease. Hence the feeble and debilitated, as well as the robust and healthy, become liable, in advanced gestation, to congestions, and to general cellular effusion. My own observation, would lead me to consider this effusion, as one of the most common, and important of the precursory symptoms. I shall take opportunity hereafter, to offer some remarks respecting it.

It seems needless to remark, that the same action of the sanguiferous system, which produces a congestion of the uterus, will tend to produce the same effect, in other organs and viscera; but from the great accumulation of blood, which takes place in the uterus, in the latter months of gestation, this organ, it is evident, must be peculiarly liable to suffer from congestion. We may also remark, that as no diseases or derangements, of other organs, have been known to produce puerperal convulsions, it seems reasonable to conclude, that the uterus is chiefly, if not solely concerned in their production. From a view of these facts I am led to conclude, that a venous congestion of the uterus constitutes the predisposing cause of puerperal convulsions. It is evident that a congestion of the uterus, when existing to a certain extent, will enfeeble this organ, and incapacitate it for carrying on the process of gestation or labour. We know that in proportion as any organ is deprived of its healthy arterial circulation, and suffers an undue accumulation

of venous blood, it loses its excitability, and becomes incapable of discharging its functions. It is this state of congestion, and its consequences, which we suppose to affect the uterus, in the disease we are considering. In what manner the uterus, when thus affected, produces that sympathetic irritation of the brain which is the immediate cause of the convulsion, we do not profess to understand.

Doctor Denman informs us, that in almost every case of convulsions which he saw, in the early part of his practice, 'there was evidently, after delivery, a greater or less degree of abdominal inflammation.' And he attributes the infrequency of these inflammatory symptoms, in latter years, to the very free evacuations which are used for the cure of the convulsions.* That those convulsions which are strictly puerperal do not depend, primarily, on compression of the brain, may be inferred from the sudden and complete return of sensibility, which often takes place in the intervals, as well as from the fact that they are seldom, or never, followed by permanent paralysis. Patients who have recovered from these convulsions are not more liable than before to epilepsies, or any other symptoms of diseased brain.

If the primary cause of these convulsions is compression of the brain, why do they occur at regular intervals? And why is the convulsive attack synchronous with the efforts of the uterus? We learn from Doctor Denman, that in the examination of many women, who died of convulsions, he had never seen an instance of effusion of blood in the brain, though the vessels were extremely turgid. If compression of the brain were the cause of these convulsions, why should not effusion be as common, in fatal cases of this disease, as in ordinary apoplexy? When the primary cause of the convulsion is compression of the brain, it cannot, with propriety, be called puerperal, as it differs in nothing from ordinary apoplexy, except that it occurs during gestation or labour. Probably an apoplectic attack is never attended with that violent convulsive agitation which takes place in the disease we are considering. If not immediately fatal, it is followed by coma, paralysis, and other distinct symptoms of cerebral compression; and if it takes place after the commencement of labour, the uterine efforts will either be entirely suspended, or they will recur imperfectly and at distant and irregular intervals. It is not supposed, that puerperal convulsions never terminate in effusion on the brain. Probably any

* Several cases of convulsions which I have seen have been followed by a degree of abdominal disease, though not apparently inflammatory. The abdomen had some preternatural fulness and tenderness, and the discharges from the bowels were of an unhealthy appearance.

cause which irritates the brain to a certain extent may produce a fatal determination of the circulation to that organ. We suppose too, that in very plethoric subjects, a morbid accumulation in the vessels of the brain sometimes takes place, together with that state of the uterus which has been mentioned as predisposing to convulsions. The disease which results from these combined causes exhibits the symptoms of puerperal convulsions, complicated in different degrees with those of apoplexy.

I have mentioned the dropsy of pregnancy, as a precursory symptom of puerperal convulsions. It will be understood, that when I speak of it as such, I do not mean by it, that swelling of the feet, which so often takes place during utero-gestation, but a general œdema, attended, most commonly, with diminished secretion of urine. It is true, that convulsions sometimes take place when there has been little or no œdema, and an extensive effusion in pregnancy is not always followed by convulsions; but, so far as I have known, this has been the case very generally, especially in first pregnancies. This cellular effusion is generally attributed to the pressure of the gravid uterus opposing the return of venous blood, but with what propriety I am unable to comprehend. It is certainly possible, that the distended uterus may hinder, in a degree, the return of blood from the lower extremities; but then, the effect should bear some proportion to its cause.* We know, however, that the effusion in question bears no proportion to the size of the uterus. In a great proportion of pregnancies it does not take place. In cases of twins, or redundancy of liquor amnii, it is not more common or more extensive than in ordinary pregnancies. Nor is this effusion more confined to the feet or lower limbs, than that which takes place independently of gestation. It may be worthy of remark, that there are two varieties of the dropsy of pregnancy, having symptoms very distinct from each other. The one takes place in vigorous subjects, is attended with strong arterial action, and a peculiar hardness of the œdematous swelling. The other is peculiar to feeble habits, and is attended with symptoms of general debility. The œdematous swelling is soft, and there is a peculiar paleness of the surface, with a waxen or semi-transparent look of the skin. These varieties of the disease greatly resemble the two predominating forms of general dropsy, which take place independently of gestation. A corresponding resemblance undoubtedly exists in the causes which produce them. Local conges-

* No one, I believe, doubts that the varicose veins of the lower limbs in pregnant women are owing to the pressure of the uterus. I have now a patient, remarkably troubled with these tumours. She has no œdema, and I do not recollect having seen the two complaints combined in a single instance.

tion is often a cause of dropsy, as we see in many cases connected with diseased liver. It is also produced by local increased action, as in those dropsies which supervene upon chronic inflammation of the pleura or peritoneum. I conclude, that congestion or excitement of the uterus may produce an unequal action of the sanguiferous system, similar to that which results from chronic congestion or excitement of other organs.

While treating on the causes which produce convulsions, it may not be improper to remark, that those women who are subject to difficult and protracted labours, are not more liable to the disease than others whose labours are easy. Nor does malposition of the child, or deformity of the pelvis, dispose to this disease. I have never known, nor do I recollect having read of any case, in which mechanical obstacles to labour were supposed to produce convulsions of the puerperal kind. If these observations are correct, it will follow, that uterine irritation, in the sense in which that term is commonly used, or, in other words, that a preternatural excitement of the uterus ought not to be regarded as a cause of convulsions. For, in labours of this class, the uterus suffers every variety of irritation, and is often, for a long time, excited to the most violent action, of which it is capable. Probably strong voluntary exertions in labour may sometimes produce apoplexy, but never, I believe, puerperal convulsions.*

It seems to have been a question with some writers, whether the disease we are considering ever attacks antecedently to labour. I believe, we may very safely answer it in the affirmative. I do not recollect having seen an attack earlier than the latter part of the seventh month; and in no instance, within my observation, has there been an interval of more than a week between the convulsive attack and the occasion of labour. It is

* Does not the opinion which has been advanced respecting the causes of puerperal convulsions, admit of confirmation from the analogy of other convulsive diseases? In those general diseases of the system, which are produced by a local derangement, we observe two prominent modes, of what is termed reaction. The one, affecting the vascular system, constitutes a fever. The other, affecting the nervous system, is termed convulsion. Is not local atony the common cause of the latter, as local excitement seems to be of the former? Acrid ingesta produce inflammation of the stomach, and fever. Indigestible substances, when taken into the stomach, often produce epilepsy. Obstructed menstruation is a common cause of hysterical convulsions, but they do not occur during uterine inflammation. The mineral poisons which inflame or corrode the stomach, destroy life without producing convulsions. The contrary, in general, is true of those narcotics, which, when taken into the stomach, suspend its natural actions, or directly weaken its vital powers. It was noticed, so early as the days of Hippocrates, that the supervening of a fever puts an end to convulsions. As fever cures convulsions, so convulsions sometimes cure other diseases. The cure, in both instances, is probably affected by restoring excitement to some organ, which had before laboured under atony.

undoubtedly a fact, that the parturient effort is most commonly the exciting cause of the disease.

Respecting the treatment of puerperal convulsions, we shall first consider what should be attempted towards preventing them. When women, who are otherwise healthy, become affected in the latter months of gestation, with those symptoms which have been mentioned, as precursory to convulsions, we should immediately take so much blood as is necessary to relieve them, and the bleeding should generally be repeated, as often as the symptoms require. It is scarcely less necessary, that the bowels should be freely evacuated, and kept constantly lax. The patient should be directed to a spare diet, and should not fail to use daily exercise in the open air. When cellular effusion takes place, we should by no means neglect this symptom, but should attempt its removal by the use of digitalis, and alterative doses of calomel.

When we discover the predisposition to convulsion, in subjects whose constitutions are impaired by previous disease, and who are of feeble and irritable habit, we shall find the indications more complicated, and the prospect of success less considerable. It is necessary, in these cases, to pay particular attention to the state of the digestive organs, and to obviate costiveness by the most gentle means. Small bleedings may be necessary, but we should bleed with caution. The diet should be light but nutritious, and the patient should take as much exercise as her strength will bear. When there is extensive œdema, we may probably derive benefit from diuretics, with bitter infusions and peruvian bark.

In some instances, when women are near the full period of gestation, they have indistinct symptoms of labour, with irregular, obtuse pains of the back and abdomen, alternating with a violent pulsating pain in the head; these symptoms continue more or less severe, for hours, and perhaps for days, and then there is a sudden attack of convulsions. On examination, it will often be found that there is no apparent contraction of the uterus, and no dilatation of the os uteri. Full bleeding and cathartics will, generally, either put a stop to the convulsions and to the apparent labour, or else will enable the uterus to act effectively, and the process of parturition, if it be actually commencing, will go on without farther difficulty. I have been called to visit two women, on account of convulsions, who were supposed to be in an advanced stage of labour. They had no dilatation of the os uteri, but their convulsions were clearly of the puerperal kind. They were relieved by very free evacuations. One of these patients had, by far, the greatest cellular

effusion, which I have ever seen. This was rapidly removed by the use of calomel and infusion of digitalis, so that she was nearly free from it before the commencement of her labour. In both these cases, after the convulsions had ceased, nearly a week elapsed before the accession of labour; and, though their labours were lingering, the convulsions did not recur, nor were they attended with any other unfavourable symptom.

Generally speaking, if a patient have not made some evident advance in labour, the circumstance of her pregnancy has nothing to do with the treatment. If, however, the convulsions continue, after suitable evacuations, and occur at nearly regular intervals, it may be important to ascertain whether the uterus is not prevented from contracting, by over distention. Should there be evidence of a redundancy of liquor amnii, it would doubtless be proper to puncture the membranes with a view to bring on efficient contraction of the uterus. But this case is probably the only one, which would justify an attempt to induce labour, with a view to suspend convulsions.

When convulsions commence during labour, the attack is sometimes sudden, and without distinct precursory symptoms. More generally, however, intense pain of the head or stomach, or violent shaking of the muscles, will for a longer or shorter time precede the attack. We notice, in some instances, a tolerably regular progress of labour, except that the uterine efforts seem not to produce their ordinary effect. There appears to be severe pain, with but feeble action of the uterus. If this state continues for a considerable time, especially if the pulse is oppressed, we have reason to fear an attack of convulsions, though there should be no other precursory symptoms. In these circumstances, we should always open a vein, unless the feeble habit of the patient decidedly forbids it. We should also direct a stimulating enema, and endeavour to excite the uterus, by brisk friction of the abdomen. I once attended a very feeble and slender woman, who had for years been subject to severe spasmodic pains of the stomach. Her labour advanced considerably, with no other unpleasant symptom, than a feeble and irregular action of the uterus. She was walking cheerfully about the room, when she became slightly convulsed, and died almost instantly.

The same general principles will regulate our practice, whether the disease comes on before or after the commencement of labour; but we shall not proceed in both cases with an equal prospect of success. When convulsions precede labour, I believe that a judicious application of remedies will seldom fail to arrest their progress, and prevent their recur-

rence. But when they commence during labour, and do not prove fatal, perhaps, notwithstanding our best efforts, they will more commonly recur with the pains, till the child and placenta are expelled.

In what I have further to say respecting the treatment of puerperal convulsions, I shall consider the disease as presenting several varieties of symptoms. Those of the first variety seldom attack, till after the labour has made considerable progress. The convulsion very generally comes on without much warning, or is preceded with a transient but violent pain in the forehead. Distinct precursory symptoms are, I believe, less common to this, than to the other varieties of the disease. We must however mention œdema, and a remarkable slowness of pulse, as exceptions to this remark, for these symptoms very seldom fail to precede this variety of convulsion. The great danger which attends this form of the disease, is not so much indicated by the violence of the convulsions, as by the symptoms which attend the intervals. For a considerable time after the convulsive attack, the patient remains obstinately comatose, with slow and oppressed pulse, bloated, red or livid countenance, dilated pupils, laborious respiration, and perhaps is unable to swallow. If there is a return of sensibility in the intervals, it is slow and partial, and is frequently attended with a vomiting of viscid mucus or bile. This variety of the disease, in some instances, is hardly to be distinguished from apoplexy; except by the convulsions recurring, at nearly regular intervals, attended with some degree of uterine action. Nor is the distinction of much practical importance. It is generally in plethoric women, of robust constitution, that we shall see this form of the disease. These require, and will safely bear, the most decided treatment. Blood should immediately be drawn from a large orifice, and in such quantity as to produce a very decided effect on the pulse. The first bleeding should rarely be less than thirty or forty ounces, and we should recollect, that the suddenness of the evacuation, as well as its quantity, is important, to produce its full effect. The bowels should next be moved. And, if the patient can swallow, we should prefer for this purpose a very full dose of calomel, followed by neutral salts, and quickened in its operation by a purging enema. These means should be aided by a blistering plaister to the nape of the neck, cold applications to the head, and sinapisms to the feet. In short, this variety of the disease requires copious depletion, so managed as to produce a sudden and strong impression on the system, together with such means as will produce, and keep up, an active counter-irritation. Should the convulsions continue, *our chief*

dependence will still be on bleeding, which should be continued as far as appears consistent with the safety of the patient. More danger is to be apprehended from bleeding too little than too much. But it should always be the design of the practitioner, to take a sufficient quantity at once. There is much more probability of arresting the disease and much less danger of injuring the constitution, when very free bleeding is resorted to in the outset, than when by beginning with small and frequent bleedings, we are obliged to take in the whole a much greater amount. In this form of the disease, the common antispasmodics will probably be altogether useless, and opiates, without doubt, are decidedly injurious.

A second variety of the disease frequently attacks before the accession of labour. It also takes place in any stage of its progress, and in some instances after its conclusion. Its approach is generally announced by distinct precursory symptoms, and these often precede the attack for a considerable time. The muscular agitation is often very violent, but the patient, in the intervals, very soon recovers sensibility, and is unconscious of all that has taken place during the fit. She appears tolerably calm, or perhaps complains of darting pain of the forehead, or sickness, oppression or pain of the stomach; and so far as I have observed in this, as well as the other varieties of the disease, the convulsion is generally preceded, and more generally followed, by indistinct vision or total blindness.

The same general treatment will be proper in this, as in the former variety of the disease; but the bleeding, if resorted to immediately, will rarely be needed to the same extent. It should, however, be copious, and sufficient at all events to produce a decided effect on the circulation. I have seen the convulsions evidently increased in violence by a moderate bleeding. It is commonly the case, that after the blood has flowed for a time, the pulse rises somewhat suddenly to more than its natural frequency, and, at the same time, becomes much more hard and resisting than before. A similar alteration in the pulse is sometimes produced by the convulsion, when no blood has been drawn. It is important generally, that the blood should be suffered to flow till the pulse becomes soft and open, and if it runs freely from a large orifice, this softening of the pulse will scarcely fail to take place before any danger will be incurred from too great an evacuation.

When the tongue is foul, and there is much oppression or sickness of the stomach, an emetic, given after the bleeding, has sometimes produced very decided benefit. A speedy and thorough evacuation of the bowels, and the use of counter-irritants, are equally important in this, as in the former variety of

the disease. If this form of the disease is suffered to take its course, or if the necessary evacuations are omitted, and relief is prematurely sought from opiates, the symptoms will soon approximate to those of the variety before described, and will probably terminate in death. But, on the other hand, it will sometimes be the case, that the convulsions continue with unabated violence after evacuations have been carried to the full extent, and symptoms of general irritation and exhaustion supervene, so that the distinctions of this variety of the disease are lost in those of the next.

In a third variety of the disease, the convulsions are preceded and followed by great general uneasiness. The patient tosses about, talks incoherently, and looks wild and confused. In extreme cases, there follow tremor and subsultus, with a very quick vibrating pulse and hurried respiration. These symptoms sometimes usher in the first attack of convulsions in very debilitated and nervous subjects, or they take place in the intervals in an early stage of the disease, and before any remedies have been employed.

More generally, however, they are secondary, and take place only after the vital powers are greatly exhausted by repeated convulsive attacks. When these symptoms attend the primary attack, they obviously require great caution in the use of evacuations. This form of the disease is peculiar to subjects whose constitutions have been broken down by previous disease, or who are naturally of very nervous and irritable habit. Such will bear to lose but very little blood, and it would doubtless, in some instances, be injurious to bleed at all. The bowels should be evacuated, and the strength be supported with animal broths, and wine or other cordials. When, as is more frequently the case, these symptoms are secondary, and take place after free evacuations, they admonish us that no benefit is to be expected from further depletion. In either case, our remedies will be camphor, ammonia, &c. with opium, in full doses and frequently repeated. The propriety of giving opiates before the termination of labour, may, perhaps, admit of some doubt. If the attack is in an advanced stage of labour, it may generally be proper to delay their exhibition till after its conclusion. But when convulsions precede labour, or take place in an early stage of it with the symptoms under consideration, I have no doubt that a judicious use of opiates will generally afford the patient the best chance for recovery.* It would seem rational to

* It may perhaps be said, that in what relates to the third variety of the disease, I am not describing puerperal convulsions; but such as are purely hysterical, or such as result from exhaustion. What I have described as the second

conclude, other things being equal, that those convulsions which commence after the conclusion of labour, should require less evacuation than others, and be more likely to be relieved by opiates; but the symptoms alone can determine the proper treatment.

It is admitted that the above division of the symptoms which attend puerperal convulsions, is altogether arbitrary; I have made use of it only with the view to render what is said respecting the treatment more intelligible and definite.

Whatever may be the cause of the disease, we have ground for the opinion, that many of the symptoms which follow an attack are the effect of the convulsion itself. That strong cerebral irritation, which attends the convulsions, endangers a fatal determination of blood to the brain; and the violent muscular exertion, if long continued, cannot fail to exhaust the vital powers. It is only by carefully observing the manner in which the disease tends to a fatal termination, that we can determine on the best means for warding off that event. Every variety of the disease is to be regarded as dangerous; for though a patient should appear but slightly injured by the first attack, a subsequent one may prove suddenly fatal.

When called to attend on labours complicated with convulsions, every physician will agree, that the first attention is due to general symptoms. If the convulsions continue, after suitable evacuations and other appropriate treatment, and the patient is in an advanced stage of labour, it is then that the question occurs respecting the propriety of artificial delivery. This question, if the circumstances are such as to render delivery practicable and safe, is to be decided on general principles. It is presumed, that no intelligent practitioner will attempt to deliver till the os uteri is dilated, or at least very easily dilatable. He will avoid a harsh and needless interference, while the labour is progressing and the appearance of the patient gives reason to expect, that the natural efforts will be sufficient to conclude it. But when the uterine efforts are inefficient, and there are symptoms of great exhaustion or dangerous compression of the brain, he will be careful not to lose time. Profound stupor, or great nervousness in the in-

variety, I suppose to be the most common form of the disease in its early stage. That the first is less frequent, and that the third occurs still less frequently than either of the others, except it be secondarily, as explained above. Two cases however I have seen, which were strong examples of this variety of the disease, yet having the unequivocal characteristics of puerperal convulsions; as the precursory pain in the head with vertigo and impaired vision; and, during the convulsions, the distortion of countenance, frothing at the mouth, hisping respiration, &c.

tervals of convulsions, and a frequent repetition of the attacks, are symptoms of great and immediate danger. Under these circumstances, it is not to be forgotten, that the uterine efforts are a powerful exciting cause of convulsion, and that artificial delivery will often afford the only chance for saving the patient.

As a remedy in puerperal convulsions, a particular consideration is due to the Ergot. It is not to be regarded merely as a means of accelerating delivery. By exciting the uterus to a more vigorous action, it tends, directly, to counteract the predisposition to disease. The trials which have been made of it, have given it a fair claim to our confidence; but farther experience is necessary, in order to determine how far it may supersede other means. It can hardly be expected, that it will at all preclude the necessity of evacuations, but it is probable that by the use of it we may often bring the labour to a safe termination, when, without its aid, we should be obliged to use the forceps. When convulsions occur early in labour, it will probably be useful and safe to give the ergot in small doses, and repeat it frequently so as to produce a moderate and steady effect. Of the propriety of this practice, however, I can say nothing from experience. After the os uteri is dilated, there can generally be no objection to its use; and if the uterus acts feebly we should give it in full doses.

When called to assist in ordinary labours, we should pay early attention to the general health of the patient, and should carefully observe the state of the pulse. By this means we may often be led to anticipate mischiefs, and may easily prevent what it would be difficult to remedy.

No man should attempt to commence business as an accoucheur, till he is thoroughly qualified to encounter those untoward accidents which he is likely to meet with in the course of his practice. It is particularly important, that he should know how to distinguish puerperal convulsions from such as are purely hysterical, and from such as are produced by hemorrhage or exhaustion. In no part of our practice can it be more important to distinguish accurately and to act with decision, than when we are required to assist in labours complicated with convulsions. Frequently a physician is called, when he needs to redeem the time which has already been wasted in trivial expedients, or to remedy mischiefs which have already resulted from ignorance and mismanagement. Need we caution the inexperienced practitioner against that blind attachment to any theory, or that implicit reliance on any authority which shall lead him to neglect an accurate discrimination of symptoms, and a careful adapta-

tion of remedies? Or need we remind him, how much he will hazard his reputation and his peace of mind, and how much he will fall short of his duty, if conscious ignorance compels him to hesitate and temporize at a time when the safety of his patient requires him to adopt a bold, enlightened, and decisive practice?

With a view to illustrate more particularly that variety of puerperal convulsions, which, as I suppose, requires the use of opium and antispasmodics, I have subjoined the following cases. They occurred in the early part of my practice, and, as I took no notes of them at the time, I cannot relate them so particularly as might be desirable. What I state is from recollection, assisted by a reference to my day book. But however defective the statement may be, I can assure the reader that in every important particular, so far as it goes, it is correct.

Mrs S——n, a very slender and feeble woman, had suffered three successive abortions, in the early months. In her fourth pregnancy, she was frequently threatened with abortion, and the ordinary complaints of early gestation, affected her with unusual severity. She was bled very sparingly two or three times previously to the seventh month, her bowels were kept open by laxatives, and absorbents and bitter infusions were given to allay the irritation of the stomach. From the commencement of the seventh month, her dyspeptic symptoms became more severe, she was subject to diarrhœa, had extensive œdema, with headache, and general nervous depression. In the eighth month, her labour commenced, and in an early stage of it her pulse became very frequent, and she discovered much general uneasiness. Her labour however advanced with usual regularity, till the head engaged in the pelvis, and her pains became more severe. Soon after this, she had violent darting pains in the head, and complained that she could not see. After a short interval, a very marked increase of pain in the head, and general restlessness, was followed by a convulsion of the puerperal kind. About eight ounces of blood were now taken from her arm, without any apparent benefit, and from her general symptoms, and her constitutional debility, it was not thought prudent, to carry the evacuation further. During the remainder of her labour, which lasted nearly two hours, the uterine pains occurred less frequently than before, and were mostly attended with convulsions. At length, in one of the convulsions, the child was expelled, and in another the placenta.

Cold applications to the head, an epispastic to the neck, and an occasional use of Spts. Lavend. Comp. and aqua ammoniæ were the principal means used during the continuance of her labour. After the os uteri was fully dilated, she took twenty grains of

ergot in substance, this seemed very evidently to increase the force of the uterine contractions, but had no perceptible effect on the convulsions. From what I had read and heard, respecting the effect of opium in puerperal convulsions, I had imbibed a strong prejudice against the use of it in this disease. But a violent convulsion, recurring about two hours after the termination of labour, determined me to make trial of a full dose. Though she suffered, after this, two very slight convulsive attacks, yet the good effect of the opium, in lessening their severity, in calming the circulation, and allaying general uneasiness, was very apparent. The use of it was continued for several days, in such doses, as the circumstances seemed to require. For several succeeding weeks, she had impaired vision, with occasional headache and dizziness, and convalesced very gradually under a course of mild laxatives and tonics.

On the eighth of August, 1816, I was called to visit Mrs ****. She was the mother of several children, supposed herself in the eighth month of pregnancy, and for several days had been unwell, concluding, from her sensations, that her child in utero was dead. She was of spare habit, and nervous temperament, but not sickly. She complained of violent pain in the forehead, and indistinct vision. Her countenance was flushed, and her pulse was full and preternaturally slow. I immediately proposed bleeding, to which she strenuously objected. She was apprehensive of a fit, and said that bleeding always made her faint and would bring the fit on. I found it impossible to overcome her apprehensions, but succeeded so far as to open a vein in her arm, and take away about eight ounces of blood, when she became somewhat faint, and so much alarmed, that I was obliged to tie up the arm. Not long after this, she became blind, the pain in her forehead became still more distressing, and she was soon violently convulsed. I took advantage of her insensibility, and drew from her arm about twenty ounces of blood. I had previously given her a cathartic, had applied cloths wet with cold water to the head, and an epispastic to the neck. From this time, her convulsions recurred with intervals of from one to three hours. They were severe, and evidently of the puerperal kind. During the first twelve hours, she became sensible in the intervals, and continued to complain of her head. The cathartic operated freely. After the second bleeding, her pulse was frequent and very tense. She discovered no suspicion at any time, of having been affected with convulsion. The next day her convulsions continued, and in the intervals, she discovered increasing restlessness, with much confusion of mind. A very respectable physician was now called in to advise. He

recommended a repetition of the bleeding, and about twenty ounces of blood were accordingly taken from the arm. Notwithstanding this loss of blood, a convulsion, more violent than either of the preceding, occurred soon after it; and the symptoms of general irritation were now alarmingly increased. Her pulse became very quick and vibrating, and her countenance was pale and ghastly. She tossed about incessantly, had dilated pupils, tremors and subsultus tendinum. She was nearly insensible to external impressions, and appeared to be rapidly approaching towards dissolution. It was now agreed in consultation, to give two grains of opium, combined with camphor and assafoetida, to be repeated every two hours, or oftener if needed, together with infusion of Valerian, aqua ammoniæ, and light nourishment. The benefit derived from this course, far exceeded our expectation. She had no return of the convulsion, and her nervous symptoms gradually subsided. I will add here, because I have omitted to mention the circumstance in its proper place, that throughout her disease, she had discovered no symptom of labour, and the os uteri was not at all dilated. Under the use of antispasmodics, and moderate tonics, she convalesced regularly, and on the 23rd, after a quick and easy labour, she was delivered of a putrid child. Her headache and indistinct vision were troublesome for several weeks, but she at length recovered perfect health. I think it will hardly be doubted, that the termination of this case would have been fatal, if the cure had been trusted to evacuations alone. The above cases, as already observed, occurred in the early part of my practice, and were not treated, in all respects, as I should have treated similar cases, after I had become more extensively acquainted with the disease. I have selected the first, as an example of the disease, in a feeble subject, connected with symptoms of general debility, and in which depletion, to any great extent is inadmissible. The second is introduced, as a specimen of what I have called the second variety of puerperal convulsions, changing in the course of the disease to the third; and ultimately requiring the treatment, which I have recommended in that variety. I had designed to introduce other cases, belonging to the first variety of the disease, in which there existed symptoms of compressed brain, and which yielded to depletion and counter-irritation. But I omit them on account of the length to which this article is already extended.

The following interesting cases, were lately treated by my friend Doctor Woodward of Wethersfield, and by him forwarded to me. I shall communicate them in the Doctor's own words.

They will be read with greater interest, on account of the deservedly high rank which this gentleman holds in his profession.

Glastenbury, Conn. Aug. 10, 1824.

CASES BY DR WOODWARD.

CASE 1.—Mrs G——, of Stepney, Wethersfield, was attacked with puerperal convulsions, on the evening following the last sabbath in April last. She was of a delicate constitution, slender and irritable. Her labour was completed before the convulsions occurred, and was not severe. It was her first child. Shortly after she got to bed, she complained of severe headache and blindness. The convulsions soon succeeded, and were of a very alarming character. They occurred at intervals of 15 and 20 minutes, and continued through the night and forenoon of the next day. Soon after the occurrence of the convulsions, she became apoplectic, and continued so till I saw her at 12 o'clock next day; 14 hours after the attack. She had had no medication. By her attending physician, the case was considered hopeless. When I saw her, her symptoms were, pale bloated countenance, apoplectic respiration, skin warm, but pale, pulse 130, highly irritated but not tense nor strong; entire loss of sense and voluntary motion, pupils of the eye contracted, power of deglutition lost; convulsions occurring every 20 minutes. She had then had forty or about that number.

I advised that blisters be applied about the head and on the ancles, that 5 grains of calomel be thrown down the pharynx, from the handle of a tea-spoon, and repeated every 3 hours, that an injection containing two ounces of Oleum Terebinth. be thrown up the rectum.

After the turpentine was administered, the paroxysm did not recur for two hours; at which time the bowels were moved freely. Afterwards, they recurred twice, at intervals of 2 hours. Half an ounce of liquid laudanum, was then given by injection, after which no convulsions appeared. As soon as the power of deglutition was restored, oil of turpentine, with castor oil, was administered, till the bowels were freely evacuated. The catheter was used twice during this period. For some days she was excessively irritable, entirely blind and deranged, calling loudly and almost incessantly for candles. Full doses of opium were given, to quiet and subdue the irritability of the system; and she gradually recovered. Her tongue was horribly mangled, and was for a long time very troublesome and painful.

CASE 2.—Mrs R——, of Wethersfield, of a plethoric habit,

sanguine temperament, subject to vertigo, and headache, was attacked on the 20th of May last, with puerperal convulsions. During pregnancy, she was extremely swollen from head to foot, with hard œdema. Her pulse were full and strong. She was bled repeatedly, in small quantities, during her pregnancy, and her bowels kept open by gentle laxatives. Till nearly the close of labour, she was remarkably comfortable; the pains were in every respect regular. The os uteri was quite dilated, and the vertex pressing on the perineum. In this situation, she was attacked with convulsions. I immediately took 16 ounces of blood from her arm, and gave her a table-spoonful of strong tincture of ergot. In a few minutes she had a return of smart uterine efforts, and the labour was terminated with one pain. The placenta soon followed, with a smart pain, and a second convulsion occurred. I now gave her 60 minims of strong tincture of opium, and she slept one hour and a half, when a third convulsion followed. She was able to swallow in the intervals, although nearly destitute of reason. In this way convulsions recurred for ten hours, at intervals of from half an hour to two hours. Her pulse were tense and full, about 110 in the minute. Her countenance was flushed, her breathing stertorous. She was bled a second time about 16 ounces. Calomel was thrown down the throat in a dry state, till about two scruples were given, and oil of turpentine with laudanum freely given. The convulsions still recurring, 30 ounces of blood were drawn from the arm. A table spoonful of oil of turpentine and two large tea-spoonfuls of tincture of opium were given, by the advice of my ingenious friend Doctor Todd of Hartford. The bowels were soon freely evacuated, and the convulsions ceased and did not return. Blisters had been applied to the forehead and ancles. The next day her bowels were tympanitic, her tongue enormously swollen, and febrile symptoms, with severe headache, tense pulse, and great heat, continued for some days, when she recovered. Free doses of opium were continued for some days.

The oil of turpentine was doubtless a very important agent in the treatment of these cases.

Wethersfield, July, 1824.

Account of an operation for the Extirpation of a Tumour, in which a ligature was applied to the Carotid Artery. By MASON F. COGSWELL, M.D.

[Communicated in a Letter to the Editors of the New-England Journal of Medicine and Surgery.]

GENTLEMEN,

AT the intercession of a number of my medical friends, I am induced to send you, for publication in your valuable Journal, the following cases; the one, although a pretty formidable operation, deserving to be recorded only as connected with its successor, and the other, deriving its claims from its having been the first time, in this country at least, where the carotid artery was tied and cut on the living subject. It may reasonably be questioned, why its publication should have been so long delayed? and to which, I confess, I cannot give a satisfactory answer. * * * * Still, however, even at this late period I was willing to be influenced by the solicitations of my friends, and perhaps by a sense of duty. I have a letter before me, which was written not long after the operation, to one of my pupils, in which all the important facts relating to it were detailed, and from which I shall endeavour to refresh my memory.

In the year 1800 Mrs L. of Lebanon, about 35 years of age, came to consult me respecting a tumour situated on the left side of her neck, occupying nearly the whole of the hollow between the outer angle of the jaw, and the superior part of the sternum, pressing on the trachea in a measure, that at times considerably impeded her respiration. She sometimes suffered from its inconvenient size, but never from pain. I advised an immediate extirpation; she consented, and I removed it without difficulty. Its character was that of a firm sarcoma, resembling a goose egg, in shape and smoothness, and weighing exactly a pound. No vessel was divided during the operation which required a ligature, the wound healed by the first intention, and she rode home on horse-back in about ten days from the operation. About two years after, she renewed her visit on account of another tumour, of a very different character from the former, on the same side of the neck, and originating in the parotid gland, about three inches from the base of the other. It commenced, she informed me, about six months previous, in a small lump when she first discovered it, not larger than a pea, that it had increased rapidly since, and at times gave her severe pain. It was now about the size of a hen's egg, had a very hard and unequal surface, and left no doubt of its being a genuine carcinus, and of a very malignant character from its commencement. I advised an

immediate removal, and stated to her the danger of delay. She said she was not prepared for the operation, promised to attend to it soon, and returned home. I heard no more from her until November 1803, when the fear of immediate death, her intolerable sufferings, and the universal desire which we all have to live a little longer, induced her once more to apply for relief. I visited her on the 4th of November 1803, when I met, in consultation, Drs Watsons, Clark, Peters and Strong. These gentlemen were from the neighbouring towns, with all of whom I had for a considerable time been well acquainted, and on whose judgment and professional skill I could confidently rely. Her situation was indeed a deplorable one. She was much emaciated, had hectic flushes, night sweats, cough and expectoration, accompanied with intolerable pains, almost constantly darting through the tumour, which threatened her at times from its pressure on the trachea with instant suffocation. Nothing but the softest liquid could be forced down with the utmost exertion; so much was she enfeebled from want of sustenance, that she could scarcely support her weight, and such encroachments had death made upon her countenance, that it seemed like rashness or folly to attempt her relief. Her mind however was unsubdued, and throughout the whole of the subsequent scene, she manifested the most unyielding fortitude. All the gentlemen concurring with me in opinion, I represented to her the extreme danger that would attend the operation, that she might possibly, and perhaps probably die in my hands; still, as she must inevitably die in a few days without it, if she desired it, I thought it my duty to undertake it. After a reasonable time for consideration, she determined to submit to the only alternative which presented or prolonging her life. Her sense of her own danger she manifested, most affectingly, in the solemn and impressive manner in which she commended her soul into the hands of him who gave it, as she approached the table on which the operation was performed. The tumour spread over the whole of the left side of her neck, extending from the ear to the junction of the clavicle with the sternum, sweeping over the trachea, rising above the edge of the under jaw, pressing on the mastoid muscle, and resting on the hollow bend of the clavicle. I commenced the operation by a crucial incision, and after separating the skin, for there was nothing but skin to separate, I had to proceed through every part of the operation with the utmost caution. If the external appearance was unequal, the internal was much more so, its processes extending themselves beneath almost every muscle and tendon in the neck; hence the extreme difficulty and danger attending the operation, and hence the tedious length of an hour to which it was extended. After dis-

secting around the tumour nearly to its base, I called the attention of the gentlemen to the situation of the carotid artery, and on a careful examination we found it completely enveloped by the tumour. I immediately laid it bare, encircled it with a broad, flat ligature, tied and divided it about half an inch from the knot. The remaining part of the operation was finished as speedily as was consistent with the safety of our patient, and with but little hemorrhage; and though extremely feeble, she was not faint. She bore the operation with surprising fortitude, almost without a struggle or a groan. The wound was immediately dressed; she was removed to her bed, and an anodyne administered; she likewise took some nourishing cordials, with great refreshment, as she had not been able to swallow, but with great difficulty, for some months previous. Dr Watsons and myself remained with her through the night; she slept quietly and without pain, having felt none after the smart of the operation was over; so widely different was her situation in the morning from what it had been for months before, that she felt, (to use her own expression) like commencing a new existence. As I lived about thirty miles from her, I left her under the care of Dr Watsons. He removed the dressings on the fourth day from the operation, and found every thing as it should be. The wound healed kindly; her hectic symptoms vanished, the ligature cast off on the 14th day, and she recovered her health and strength so rapidly, that nothing now seemed to forbid a perfect recovery; and had her attendants been possessed of ordinary sagacity, the fatal event which succeeded might have been averted. On the 20th day from the operation, when every thing was doing well, a slight hemorrhage commenced from one of the anastomosing arteries, under the fore part of the jaw, which, in all probability, the slightest compression would have controlled. Dr Watsons resided three miles from her, and the messenger had to extend his ride six miles further before finding him; and although the hemorrhage was moderate, yet so much time had elapsed before the arrival of the Doctor, that the loss of blood was more than she could sustain in her feeble state. She had not a sufficiency left to support the powers of life, and she gradually declined and died a short time after, rejoicing that she had submitted to an operation which had relieved her from the most fearful agonies, and enabled her to enjoy rather than to suffer a peaceful death.

Thus in the event the case terminated fatally, yet the circumstances attending it were such, as entirely to establish the practicability and safety of dividing the carotid artery on the living subject.

It ought to be added, that in tracing the progress of the artery in the tumour, although it was fully open on the lower side, it was impervious to the smallest probe beyond its centre; indeed there was no trace of it to be found on the side next the jaw. How long the communication between the heart and the head, through this artery had been interrupted, could not be determined; some two or three months, however, is probable, as from about that time she felt a sensation of uneasiness, rather than pain, throughout the whole of the external covering of the left side of her head.

Hartford, Con. 1824.

Cases and Remarks. By a Contributor to the first series of this Journal.

[Continued from p. 129, Vol. XIII.]

DROPSY OF THE AMNION AND FŒTUS.

DROPSY is occasionally a disease of the fœtus, and may exist to a degree sufficiently great to interfere seriously with labour. Water collects in the abdomen, or in the cellular structure beneath the skin. This last case is rare. I have in my collection a fœtus in which anasarca existed in a very remarkable degree. The child when born, weighed fifteen pounds. It was almost a shapeless mass, exhibiting a species of monstrosity quite alarming to the patient and her friends. The extremities scarcely projected from their places, the whole length of the limbs being lost in the universal tumour. The mother had been frightened during pregnancy by a very large tortoise which had been brought from sea, and without her knowledge, placed near the house. It was said that the monstrosity had been produced by fright, and the mishapen mass was thought to give some foundation for the opinion. An accidental wound of the integuments was followed by a perfect escape of the water, and the limbs and features at once became evident. The preparation when thus diminished, did not weigh more than six pounds.

Partial anasarca is more common. It occasionally exists about the umbilicus, in the envelope of the cord at its root. In such instances, the cord itself may partake of the disease. The integuments of the scrotum, and labia are sometimes distended with water. This may be confounded with swelling which sometimes occurs in the same parts from pressure incident to some presentations. When water is effused, the skin is very smooth, tense, yielding to pressure, and very pale. Blood gives

different characters to the swelling. They are of very little consequence.

Water accumulates in the cavities. Most commonly this happens within the cranium, or in the cavity of the abdomen. In the cases I have seen, fœtal dropsy has interfered seriously with the development of the fœtus. This has been manifested by a very disproportionate size of the part in which the fluid has collected over that of other parts. The extremities, the lower especially, have been the least grown. Fœtal dropsy sometimes exists alone. At others it is complicated with that of the amnion. This last was the case in one instance I have met with, and led to some confusion in the diagnosis during labour, and concerning the period of pregnancy before labour occurred. The occurrence of dropsy in the amnion and in the fœtus at the same time is a curious fact. It is in proof of a more intimate and complicated connection between the uterus and its contents, than some experimental speculators have been disposed to admit. These cases show at least that there may be a correspondence in the action when morbid, between the amnion, and a similar texture within the body of the fœtus. It ordinarily happens, that there is a great disproportion in the fluid collected in the two different situations. That of the amnion being the greatest. Sometimes it is so excessive as to form true uterine dropsy. The fœtus in these cases is frequently blighted, and labour whenever it occurs, is accompanied by a great effusion of water on the rupture of the membrane, and the escape of a small fœtus, and after birth.

There are two periods in which dropsy in these situations presents questions of some interest. These periods are pregnancy and labour. In the former what most deserve notice are the circumstances under which the increase of the abdomen takes place. These circumstances are noticeable in the first place, as it regards the actual size of the abdominal tumour at various periods during pregnancy; and secondly, in regard to the manner in which changes in size take place.

First, as to actual size. The first remark under this head is, that this does not bear any fixed proportion to the period of gestation. This is at once explained, by the fact that disease is the cause of the increasing contents of the womb, whether the liquor amnii, or the fœtus. There is nothing regular or certain in the progress of disease, or the amount of its effects. The increase of the uterus may depend on many, or on a single cause; on the state of the system, or of parts of it. The fœtus in health increases after a certain manner. A regular course of events marks its development, and it experiences an augmenta-

tion of bulk at fixed periods, so that its changes are strictly proportionate to each other. This explains why in the one case, we have bulk out of proportion to period, and why in the other, these should correspond.

The second inquiry is partly involved in what has been said under the first. This is at least the case, so far as the suddenness and irregular manner in which change in the bulk of the abdominal tumour is concerned.

But besides these considerations, there is one which has some interest from its connection with the physiology of the gravid womb. Dropsy of this organ or of its contents, presents us with changes very nearly allied to those which occur in it in healthy pregnancy, and with some which are not observed in that state. Physiologists are now agreed that the increase of the womb for the accommodation of its ordinary contents when gravid, is functional, and not mechanical. That it is to the state, the mode of action of the organ we are to look for its increasing capacity, and not to any direct agency of what it contains. It is not to pressure, as a stimulus to an increasing development of the part, that we can refer this very curious fact, for in extra-uterine pregnancy the uterus enlarges, as if for the accommodation of that which should have been in its own cavity, instead of elsewhere. In exact correspondence to these views, we observe a fixed order observed in all the changes the organ undergoes when pregnant. The body and fundus first enlarging for the increasing foetus, and last of all the neck or inferior portion. In dropsy the changes in capacity in the organ occur with more or less irregularity, and the size is frequently very disproportionate to the period of pregnancy. This however is not owing to a mechanical cause, acting directly to increase the capacity. For even in this case, the parts in which the greatest increase first occurs, are the same with those which exhibit the same phenomena in healthy gestation. When however the water accumulated in the womb comes to occupy those parts of the organ to the extent of its capacity, let this be at what period it may, then the other portion contributes its part. The neck of the womb gradually disappears, the os uteri is dilated, and labour takes place.

Most of what has been said applies to dropsy of the womb, either existing alone, or when the foetus is at the same time dropsical. When this complication does not exist, but the foetus alone is affected, the changes manifested in the size of the uterine tumour take place after an order so very nearly similar to what ordinarily happens that we are not led to suspect the presence of the disease, while pregnancy lasts. It becomes

manifest either during labour or after delivery, and the degree in which it exists determines at which of these periods, this shall be discovered. Thus if water have collected in either of the cavities to such an extent as greatly to increase its size, a difficult labour will be the consequence and it may happen that the labour shall be impracticable without artificial assistance. Dropsy of the womb or fœtus, or both, is accompanied with the ordinary sympathetic affections of healthy pregnancy. The woman's general health is not essentially impaired, and if a degree of disturbance in the system should occur, amounting to a morbid one, it would in the majority of cases be attributed to some peculiarity in the individual, and be still referred to pregnancy. This fact is deserving notice, since it shows that the ordinary sympathies of the gravid womb, are ascribable to the degree of action going on in the organ, rather than to the kind of action. The mistakes of women as to the existence of pregnancy, which have occasionally furnished cases as ludicrous as curious, have been made in consequence of the concurrence of these sympathies with the abdominal enlargement.

What has been advanced in this paper, applies to the diagnosis of midwifery. This is sufficiently obscure, a great many signs are enumerated in the books, the presence of which in any case is said to show the existence of pregnancy and its kind. But with the full memory of these, and with the additions of our own observations, it commonly happens in the difficult cases and where we want the best guides, we prefer to wait the issue of the case before we pronounce on its most important features, or at least give but a very conjectural opinion.

We distinguish dropsy of the womb in pregnancy, from healthy pregnancy, by the irregularity, which is observed in the first in the increase of size of the uterus. The irregularity is manifested in the early time from conception, in which the great increase occurs. Secondly, the motion of the fœtus is obscure relatively to the apparent size. The usual mode of accounting for a great size in the early months, is to suppose that there has been some mistake in the reckoning, and that the case is really more advanced than the individual imagines. But ordinarily at such period the fœtal movements are brisk, and correspond with the time. In dropsy it is not so. The movements are obscured, and the patient is frequently sensible that they want the ordinary characters. If dropsy be more general, and it occurs in other cavities, the general health will be more or less affected. Some of these cases present very severe instances of disease. Anasarca is not here included, since this may and does exist in otherwise perfectly healthy preg-

nancy, and goes off after confinement without trouble. The complication is serious when the water accumulates in the cavities, and when this is accompanied with the general symptoms of dropsy.

When water collects in the cavities of the fœtus, or when anasarca takes place, and these exist alone, the diagnosis is more obscure. If the head contain the fluid, and other parts retain their common proportions, or what is more common, are much under size, the abdominal tumour will increase very much after the common way. The disease of the fœtus in such cases will not be suspected till labour, and if it be trifling, the child may be born without much trouble. When the amount of fluid is great, and the part in which it occurs is of course much above the common dimensions, difficult and obscure labour is produced. The fluid is incompressible, and if detected early, and the womb contract firmly, and but slowly relax in the intervals of pains, a very firm and unyielding tumour will be felt in the vagina. This will be especially the case when the labour is far advanced, and the presenting part is firmly forced down and wedged in the pelvis.

The following are cases of fœtal dropsy. In one of them dropsy of the amnion also existed.

CASE I. Mrs D. aged about forty, and the mother of three or four children, had been in labour between thirty-six and forty hours, when I was requested to see her in consultation with her attending physician. The contractions of the uterus had been vigorous. The presenting part was low in the pelvis, and had for some hours remained immoveable. The urinary bladder was suffering from pressure, and very scanty evacuations had occurred from it. Her strength was failing. The pulse were rapid, skin pale, and tongue coated. She had much general uneasiness, and was restless. Upon examination the presenting part was readily felt. A firm tense tumour filled the vagina. It was the head, but the bones of the cranium could not be well distinguished. The position of the face in regard to the pelvis could not be made out. The treatment of this case was so strongly indicated by the circumstances, that measures for the accomplishment of delivery were at once resorted to. The bladder was first emptied by the catheter, and the forceps applied to the head. The application of the instrument was easy, the handles secured, and an attempt was made to deliver. I was at once struck with the readiness with which the handles of the forceps could be brought into contact, and still more with the perfect ease with which the blades slipped off the sides of the head. The movement with the instrument consisted of a

force partly lateral and partly in the direction of the vagina. This is best calculated to secure the blades to the head; for in this way the point of one blade antagonises with the shoulder of the other. The direction of the force applied is alternately diagonal of the head, while the direction of the head itself will be between these diagonals, or in the direction of the vagina. The instrument being found useless was removed. A very little consideration on the circumstances of this case led to an explanation of the probable causes of the failure. It was believed that the bulk of the cranium had not entered the pelvis, and that the base was still above the brim. On farther examination this proved to be the case, and the presenting part was the vault of the cranium filled with water and much elongated by the pressure of the sides of the pelvis. The water was now evacuated by puncture. The head being much diminished, the labour was accomplished with little farther difficulty. This patient was very ill for a few days immediately subsequent to delivery. Symptoms of inflammation of the abdomen shortly supervened. These however yielded to treatment, and in ten days she was able to rise from bed, assisted in dressing herself, and seemed in a very fair way to recovery. In the third week, having made one day more exertion than common, she suddenly experienced the sensation of something having ruptured in the pelvis. A discharge immediately took place from the vagina, consisting of fœcal matter, and a very offensive green fluid. Under this she at once sunk, and after a few days died. Examination after death was not made.

CASE II. Mrs —, about 25, the mother of one child, and of very small stature, became pregnant the second time, and suffered the ordinary symptoms of early pregnancy. She grew rapidly large, and between the fifth and sixth months had nearly acquired the size of the full time. At this time she was taken in labour. I was called to see her in the country, after she had been nearly thirty hours in labour. The membranes had broken, and a very great quantity of water had been discharged. I found her somewhat exhausted, but having tolerable pains. On examination, the lower extremities of a fœtus of about the third and fourth month were felt in the vagina towards the sacrum. Immediately anterior to these, a firm tumour was pressing down in the vagina. It had the firmness of the cranium during the action of the uterus, but yielded on pressure when the pains subsided. No connection between this tumour and the extremities could be detected on examination. The extremities were but loosely attached, for much exertion had been made to assist in delivery by them. They separated at the knees and came away

with little force. They were livid, and the cuticle peeled easily from them. The presenting tumour now came down with the pains, and with the assistance of the lever was delivered. On examination it appeared that the extremities before spoken of had belonged to this fœtus; that the abdomen distended with water was the presenting part; that its great size had been the cause of the delay to delivery, and that the head and superior extremities corresponded in size to the limbs removed.

The fact of the early development of the uterine tumour in this case was not stated till after delivery. This made the case plain. The groins could not be reached on account of the great size of the presenting abdomen which filled the vagina. My impression was that the women had twins; that one had been early blighted, while the other had arrived at greater maturity, and I was unwilling to do any violence to the last which was slowly advancing, and which might, from erroneous reckoning, be more mature than the woman imagined.

This was a case in which dropsy of the amnion was complicated with dropsy of the fœtus. The disease was strictly confined to them. The woman had laborious labour, and suffered some little exhaustion. Her recovery was rapid.

REVIEW.

ARTICLE XI.

Illustrations of the Inquiry respecting Tuberculous Diseases. By JOHN BARON, M.D. Physician to the General Infirmary at Gloucester. London: T. & G. Underwood. 1822.

IN a former number we published a review of the Inquiry referred to in the above title, and it is our purpose at this time to give our readers a general abstract of the Illustrations. We shall do it by making very free quotations from the work. We perform this comparatively humble labour with great pleasure, for we think we shall, by thus doing, render our readers a greater service, than by filling the space allotted to this work, with any merely speculative matter which its perusal has suggested. It appears from the introduction that the opinions of Dr Baron have undergone some change.

‘The opinions at one time embraced by him,’ observes Dr. B., ‘were different from those he now advocates. This avowal can give them no additional weight; but it may convince the reader, that they were adopted, not hastily, but on solemn conviction, after mature and impartial inquiry.’

A change of opinion is not a rare occurrence in our profession. The avowal however is not so universal. Whenever it is fairly made, our respect for the writer is increased rather than lessened. When the book is once published, the author is identified with the public which is to judge it. He is influenced by the reception it receives, and his views are modified, or changed, by professional criticism, or by his own wider experience or juster reflections. It will form no part of our present purpose to point out precisely in what respects Dr B. has changed his opinions, for he has not stated it distinctly. It will be perceived by those who have studied the preceding work. It is our object to give a connected view of such portions of Dr B.’s work, as relate more or less immediately to practice.

In the chapter on the ‘progress of pulmonary tubercle,’ the first in the volume, Dr B. recapitulates some of the propositions contained in the Inquiry. These are requisite to a right understanding of what follows. They are not literal transcriptions from that work, but are collected from various parts of it.

‘First, then, I affirm,’ says Dr B. ‘“That tubercles exist in almost every texture of the body, and that their origin and essential character will probably be found to be the same, wherever they are discovered.”’

‘II. That tubercles in their commencement, are small vesicular bodies (i. e. hydatids) with fluid contents.

‘III. That these bodies subsequently undergo transformations, on the nature of which their tuberculous character depends; that these transformations are progressive, but not uniform, and that it is only in the larger bodies of this kind that they can be accurately traced. That they commence with an opake spot, which advances with different degrees of rapidity, and ultimately converts both the contained and containing parts into substances very different from what they were at first.

‘IV. That on the size and relative position and structure of the tubercles, which are thus formed, depend the characters of many of the most formidable disorganizations, to which the human body is exposed.

‘V. That considering the transmutations, which these bodies undergo, the condition in which they may be found will be modified by the time at which they may happen to be examined.

‘VI. That it is rarely that we can have an opportunity of seeing the first steps of these morbid phenomena in the human subject, because the tubercles are generally formed, and the elementary character of course lost, before death permits us to make enquiries respecting altered or morbid structure.

‘VII. That some tumours are formed by the aggregation of tubercles, and that the characters of such bodies are materially influenced by the relative position and contents of the elementary parts, of which they may happen to have been composed, or in other words, that “varieties in the arrangement of the elementary parts of morbid growths, will of course cause corresponding varieties in their appearance.”’

‘VIII. That, therefore, diversity of appearance in tubercles or tumours does not imply diversity of origin, for it has been demonstrated that substances and textures of very different properties may be found even within the same cyst, thereby merely denoting different gradations in the changes, to which these bodies are liable.

‘IX. That the disorganizations above referred to are not the product of any species of inflammation, and that though inflammation may attend their growth, and modify the symptoms, which they occasion, yet that it is very different both in its origin and consequences from that species which attacks a part unaltered by previous disease; that in the first instance it is to be considered as the consequence, and in the latter as the cause of altered texture.’ pp. 4—7.

The following general remarks, preliminary to the description of tubercles, deserve attention.

‘Should a small number be generated, the symptoms and morbid appearances may be very different from what they are, when a large quantity are evolved. In the former case, they, for the most part, attain a much larger size than they do in the latter; and then they may produce either a vomica, or a tumour, or both. In the other case, which is by far the most common, the size which a tubercle may attain, is necessarily limited by the number and position of those, by which it may happen to be surrounded. If they advance simultaneously, no one can much outstrip the other in its growth; and the consequence is that we generally find under such circumstances a number of tubercles not differing very much in magnitude from each other, either approximating or in actual contact, and with qualities varying according to the nature and period of their progress. It is that progress in the common tubercular phthisis, that we are now to attempt to trace.’ pp. 9, 10.

The following is the description of tubercles.

‘When tubercles are first formed in the lungs, they are not cognizable by the touch, by reason of the delicacy and elasticity of their structure, but they are visible on careful inspection. They are very vesicular transparent bodies, and shine amid the unchanged texture of the surrounding lung. Should any of them happen to have been generated on the surface of the membranes, they there may be seen clustering together, and resemble both in size and general character the beautiful globular incrustations, which beset the stalks and leaves of the ice plant. In the human subject it is *very rarely* that we can have an opportunity of detecting them in this their primary state; and consequently most of the descriptions which have been given, commence at a period somewhat later in their progress. At that time the softness and delicacy of the vesicle is lost, its transparency is diminished, and its size is increased. On examining the lung, where they may exist, by the touch, a distinct granular sensation is communicated to the fingers. The progress from this period is evinced by an augmented size, a firmer texture, and a complete loss of transparency, a yellow opaque body being perceptible. In this state they sometimes fall into ulceration and prove fatal. But before such an event takes place, it occasionally happens that many of them advance further and exhibit other appearances. Except where they are in contact with each other, they go on increasing in bulk. The coats of some become thick and hard and almost cartilaginous, while their contents may vary both in colour and consistence. Others proceed in a different way and are condensed into solid bodies of an uniform texture, the cysts and the containing parts being scarcely discernible from each other.

‘The appearance then of the lungs of those who die in this state is, as follows; some tubercles, when cut through, will be found to be firm and solid, others with thick dense coats containing curdy, cheesy, or purulent-looking substances; others will be found to have been in part destroyed by the progress of the ulceration, and

to shew the firm and almost cartilaginous remnant of the emptied cyst, conspicuous amid the surrounding disease. Should a great number of contiguous tubercles have fallen into this state, deep and extensive and irregular shaped fissures and excavations are thereby formed.' pp. 10—12.

What changes are noticeable in the progress of tuberculous diseases? At first, let the tubercles occur where they may, the surrounding texture seems to undergo little or no change. The functions of the organ appear to have experienced no disturbance. In the lungs, for instance, the circulation and respiration remain unaffected. An increase in the size and density of the tubercles is attended with obvious effects. In the lungs the respiration and circulation are affected, and a state of texture resembling *hepatization* is produced. In the progress of the tuberculous disease, the lung may be obliterated. 'This takes place when the tubercles increase in size and coalesce, a dense solid structure being thus formed, with here and there partial traces of the original tuberculous character, to the total exclusion of every thing like the pulmonic texture.'

Of the symptoms as observed in the progress of tuberculous diseases.—There are two states in which tubercles excite no very marked symptoms: the incipient state so called, and that of consolidation. Dr B. is disposed to think, and says with the strongest reason, that consolidated tubercles do not fall into supuration, and that suppuration is found principally to occur in those which were not destined to arrive at the point of consolidation. This state, therefore, when fully developed is a safe one for the patient, except where it has taken place in a very large portion of the lungs, with accretion of the membranes. Tuberculous phthisis has its place in that period of the progress of tubercles, which is intermediate between the state of consolidation and their first appearance. This will be apparent, says Dr B., by attending briefly to the ordinary progress of the disease.

'In a person who has tubercles, a frequent cough without any expectoration, but with occasional oppression about the chest, and hurried respiration on slight exertion, may exist at intervals for many months, or even a longer period without any other sign of disease. What is commonly called a fresh cold, may increase these symptoms and render them more permanent, and then the patient, who never expectorated before, may perhaps be surprised by spitting up a yellowish or whitish globular shaped mass, tinged with blood, or a gush of blood may precede an occurrence of this kind. I have known the last mentioned symptom repeatedly happen, to a most alarming extent, in a case, where there was great destruction of the pulmonary tissue by the consolidation of tubercles, but where,

though the case proved fatal, there was never any expectoration of the matter from tubercles. It is from this and other kindred cases, that I infer that tubercles once consolidated do not subsequently suppurate or ulcerate.

‘Such an expectoration, as I have above described, is a very sure token of tuberculous disease. One of them has given forth its contents; and it plainly tells us that there may be more in a condition likely to do the same thing. In proportion to the number of these bodies, and the rapidity with which their texture is broken down, is the progress of the disease.’ pp. 15, 16.

It sometimes happens that after expectoration has emptied the ulcerated tubercle of its contents, a considerable time may elapse before another ulcerates. It may be that few tubercles exist in which this process can take place, and after it is completed in all, the patient may recover, or finally the tubercles may become quiescent, and pass into the state of consolidation and safety.

‘The appearance and the quantity of the matter expectorated differ much at different periods in the same case; that which is discharged from a tubercle, strictly so called, varying from that which may be excreted from the disease of the mucous surfaces, which has been excited by the tuberculous affection. The appearance of pus, by no means, as is generally supposed, necessarily indicates the presence of tubercles, for the contents of these bodies are very often far from being purulent. It is manifest therefore that this test, which has been looked for to determine the existence of tuberculous disease, may be fallacious. The reader must remember that I am here speaking of the matter, which is contained in the tubercle itself, in contra-distinction to that, which is yielded by the surfaces of tubercles that have ulcerated, and discharged their contents, as well as of that which is afforded by the diseased condition of the surrounding parts.’ pp. 17, 18.

The dark coloured, indurated state of the lung before spoken of, does not attend tubercles in their early state. ‘When it occurs to any considerable degree, the difficulty of breathing is generally greater than when it does not exist, and there is, for the most part, likewise a livid appearance about the lips and countenance, which is not seen in other cases.’ The progress of the tuberculous disease presents much variety in regard to pain. Pain is sometimes wanting through the entire progress. In other cases deep-seated and acute pain attends the disruption of every successive tubercle. The state of consolidation, however, may be arrived at without pain being perceived in any period of the progress.

We have spoken of tubercles in the substance of the lungs. They may attack the pleura. The disease in both is the same, and the issue may be equally fatal. In the latter some of the symptoms of the former are wanting.

‘Tubercles in the pleura cause sometimes effusion into the cavity, more frequently accretion. When the latter event takes place, there is cough and dyspnœa and a rapid pulse, but no expectoration. But when tubercles in the lungs, in a state of ulceration are added to it, we have in conjunction with the symptoms already enumerated, the expectoration of tuberculous matter, hectic fever, &c. The mode of breathing in cases, where accretion of the pleuræ has taken place is different from what it is when the lungs are free within the cavity. In the first mentioned instance, “the shoulders are drawn forwards, the ribs do not move as in the natural state, the whole chest heaves at once; and most of the muscles on the trunk of the body seem to be called into action.” On striking the chest of a person in this state, the sound emitted is like that produced by the percussion of a solid body, very different from that which a healthy chest affords, or when disease exists in the lungs without accretion of the membranes.’ pp. 20, 21.

The following case is given as an instance of the progressive changes exhibited in some cases of tuberculous lung. The subject was cut off by another disease.

‘A boy about 13 years of age came under my care with symptoms of pulmonary disease. Though they were of a threatening nature, they were by no means such as to excite any immediate alarm for his safety. His countenance was pale and emaciated, his breathing rapid, and the pulse very easily accelerated on slight motion. He coughed frequently but expectorated very little. While in this condition he was suddenly seized with the symptoms of an affection of the head. He moved about apparently unconscious of surrounding objects. He soon afterwards became comatose, and although very active means were used to save him, he died in a few days. He was however sensible and talked, and knew people about him just before he expired on the 10th day of December, 1819. I examined the body on the following day. My principal attention was directed to the state of the thorax, and there I found most interesting illustrations of the descriptions given above. There were accretions nearly of the whole of the right side of the chest; but they were not so firm by any means as they are in the more advanced stages of tuberculous disease. On examining the pleura, particularly towards its upper portion, it was studded with innumerable small bodies, many of them not so large as the head of a pin. They were perfectly transparent and glistened on the surface of the membrane. On another portion of the pleura pulmonalis I found a tubercle pendulous and as large as a pea, with thickened coats, and containing cheesy matter.’

‘The transparent vesicles pervaded the substance of the lungs as well as the membranes, but they did not all remain in this simple or elementary form. They exhibited every gradation in the progress, which has been already described. In their first state, neither lungs nor membrane, where they occurred, were much alter-

ed. But the condition of the surrounding lung became changed with that of the tubercles themselves. Some had lost their transparency, and were of the size of millet seed; others were considerably larger, and were of a firm uniform consistence. Others were less uniform both in colour and texture; some had discharged their contents, and the empty cysts appeared; others which were consolidated, had nearly coalesced and formed a dense yellowish structure, quite foreign to that of the original pulmonary tissue.

‘The surrounding lung, as has been already said, at one part was nearly healthy. Where the tubercles were most numerous, it was condensed and of a purple colour, and lastly where the tubercles had come in contact, the pulmonary texture was not to be found.’ ‘On opening the head, water was found in the ventricles, the veins of the pia mater were much enlarged, and there was some appearance of thickening of the dura mater over the right hemisphere.’ pp. 22—24.

Dr Baron in the next place describes an appearance very frequently noticed in the disease. It is the change which tubercles undergo in shape in their progress. At first they are soft and circular, but in time they increase in size, and come to press on each other, and their cavities now instead of presenting circles, give us squares and figures of various kinds.

The extent to which tubercles may exist, without their ordinary accompanying symptoms, is strikingly shown in a case in which the author’s attention was principally occupied by some affection of the stomach, with stricture of the œsophagus. The case was fatal after an attack of pneumonia, of some weeks continuance. Upon dissection the tuberculous disease was discovered in various states of its progress. There was no stricture of the œsophagus. The difficulty of deglutition had been produced by the pressure of the tuberculated and consolidated lung on the œsophagus. What is most important to be noticed in this case after the fact that much disease may exist without the ordinary symptoms, is, that death may arrive not after the manner of consumption. ‘There is neither expectoration, nor hectic fever, nor any of the other signs which attend the ulceration of tubercles.’ In this case the state of consolidation nearly arrived, and though not so stated it is very probable that the attack of pneumonia was purely accidental.

Two questions of much importance in the discussion, are next considered: The origin of tubercles, and their identity in the various organs in which they occur. Dr Baron teaches their independent or original existence, or that they are not effects of previous morbid processes; and that let them occur where they may, their nature is the same. Two cases are given in support of these views. The first shows the progress of tuber-

cles in the liver the next in the mesentery and serous membranes. The first was fatal by accident.

‘On opening the abdomen, a considerable quantity of serum was found within it. The omentum was thickened and was full of tubercles. On examining the liver, its surface was found to be very uneven, in consequence of the existence of tubercles, which pervaded its whole substance. Different sections of this substance afforded different appearances. Some of the tubercles were exceedingly minute and could not be distinctly seen without the aid of a glass. Others varied in size from that point up to the magnitude of a walnut. Some were solid and of a bright yellow colour; some contained a brownish looking matter; others a thick pulpy mass like broken down brain; and others retained, in a very evident manner, the decided remains of the hydatidical character. Another portion of the disease exemplified what I have already described, as sometimes occurring in the lungs in consequence of the peculiar arrangement of the tubercles. They had united together and formed a substance approaching in density to that of scirrhus. Their boundaries in some places could not be distinctly traced, but in others, instead of presenting the original circular form of the tubercles, they were marked by angles and straight lines.’ pp. 31, 32.

Of the second case we can give but a selected abstract.

‘Wm. M——, eight years of age, was attacked with measles about eight months ago; so on afterwards he began to complain of distress and uneasiness about the abdomen, which was observed to become tumid and enlarged. It increased in size, and when I saw him, it had attained a very considerable magnitude. It was tense, but not very hard; around the umbilicus the skin was of a brown reddish colour; under that part too the tumour felt softer.’

‘He lingered till the body was emaciated to the last degree, and for several days before death took place, the front of the chest and abdomen were covered with petechiæ.’ ‘On opening the abdomen, the peritonæum which lines the cavity was found universally thickened, and studded with yellow tubercles of various magnitudes. Under the umbilicus, and extending downwards to the hypogastric region, a cavity was formed by the accretion of the intestinal and abdominal peritonæum to each other. Both surfaces had been highly tuberculated, many of the tubercles had passed into a state of ulceration, and the matter which was formed in this diseased cavity had ultimately destroyed the texture of a portion of the intestine, and found its way into the canal, and was voided in the manner already described. On proceeding to examine the rest of the abdomen, tubercles were found in different stages, and of different magnitudes, and in different combinations with each other, attached to the viscera or embedded in them.

‘I shall select a portion of the mesocolon to illustrate what I mean by these statements. There I found many tubercles in a

semi-transparent state, having little advanced beyond their original vesicular or hydatrical character. They seemed to be connected with the lymphatics, many of which were much enlarged. In contact with the tubercles last described were found some, completely transformed into solid bodies, while others again had contents of a curdy or cheesy consistence, which could be easily squeezed out from the cyst. In those where the consolidation was most perfect, the appearance of the cyst became less conspicuous, and the amalgamation both of the contained and containing parts was complete. Another variety of appearance was occasioned by the manner in which the tubercles happened to grow together. Contiguous to those already described, I observed an irregular oblong yellow mass. This was one of those appearances, which it has been customary to account for, by ascribing its origin to what has been denominated the deposition of scrofulous or tuberculous matter. I have often seen large sheets of this substance, spread over the intestines or lining the abdominal cavity. And I have no hesitation in saying, that the account in question is decidedly erroneous. I had opportunities this day of completely ascertaining this point, and I feel myself fully authorised in repeating my former assertion, that such appearances are produced, not by any process that we can understand by the word "deposition," but by the aggregation and co-alition of tubercles, which happening to be generated near to each other, and having increased in size, ultimately unite, and seem, on a superficial examination, to have lost all their original and distinctive qualities.' pp. 33—37.

The succeeding chapters in the volume except one, the last, contain an account of tuberculous diseases in the inferior animals, a great deal of learned reference to such writers as agree with or differ from Dr Baron, in his views respecting the nature and origin of these diseases, together with a critical examination of the works of Boyle, Laennec and Abercrombie on the same subjects. These chapters are very interesting. It would be difficult to bring them into a short compass, they relate to the whole natural history of tuberculous affections, and are a very elaborate and able defence of the opinions of the author. These opinions are contained in the propositions which occupy some of the first pages of Dr Baron's volume, and we have placed them near the beginning of this article. In passing from these chapters which occupy far the greater part of the volume, we arrive at the last one from which we shall make some extracts. It is entitled 'Remarks on the Treatment of Tuberculous Diseases.'

'It is not my intention, at present,' says Dr B. 'to enter at length upon the subject of the treatment of such disorganizations as we have been considering in the preceding chapters. There are, nevertheless, several remarks suggested by the doctrines which we

have endeavoured to support, that bear so much, both upon the prevention and removal of these diseases, that it would be wrong to pass them by without notice.' pp. 211.

In another place, Dr B. observes,

'It shall be my object to impress upon the reader's mind the leading principle, to which our attention ought invariably to be directed in the management of this class of diseases. It is this; a disorganizing process is going forward, which produces certain consequences, according to the situation in which it occurs; and our only hope of restoring health consists in arresting that process, and in rousing into action those powers of the system, which may remove the changes that have taken place. It is manifest, that these objects can be best attained in the early period of such disorders.' pp. 213, 214.

Very judicious remarks follow on the importance of attending to the earliest symptoms of tuberculous disease in the lungs. These symptoms unhappily are frequently so slight, and by friends so often ascribed to the slightest causes, that the physician may not see the patient till the disease has already made fatal progress, leaving him little more to do than to watch that progress, and to palliate symptoms which he feels he cannot remove. Dr. Baron teaches that we may learn the danger at a period early enough to use means which may check the morbid processes in their beginnings, and save the life of the patient. We have next the following remarks in relation to prevention and treatment.

'Since it appears that whatever enfeebles the frame, or deteriorates the constitution, pre-disposes to the diseases in question, how shall we avert this pre-disposition? The answer is apparent: we must do every thing in our power to invigorate and fortify the tender frame; to bring all its functions into a healthy state, and by all means to endeavour to keep them so. But, suppose that this cannot be effected; that the pre-disposition has already advanced to incipient disease; that change of structure has actually commenced; what in that case, is to be done? We must first seek the absorption of that change of structure; or, at all events, prevent its increase. Next, it may be asked, what agents can we command for accomplishing such desirable purposes? Though not so numerous, nor so certain, as might be wished, there are, nevertheless, some of unquestionable efficacy; and these we shall shortly consider.' pp. 215, 216.

Of particular remedies, Dr B. first speaks of mercurial and alkaline preparations. He does not recommend mercury in tuberculous diseases of the lungs. For the same affection, however, attacking the lymphatic system in other parts of the body, external parts, or the abdominal viscera, for instance, he ac-

knowledges mercury to have been a valuable remedy. There is no great difficulty in explaining this. Notwithstanding the variety which obtains in the structure and functions of different organs, the morbid processes of which they are susceptible, have more or less resemblance to each other; still it does not follow that a remedy which may remove disease from one, will necessarily do it from another, though this sometimes happens. Bearing this in mind we were prepared for the apparent inconsistency which occurs a page or two farther, where we find the author recommending a modern remedy, the hydriodate of potass in tuberculous disease of the lungs, because Dr Coindet had found it highly successful in bronchocele; or rather since, according to Dr B. bronchocele is closely allied to the pulmonary affection in question, the remedy which cures the first may also cure the last.

Dr B. first gives three histories of tuberculous disease, in which the above preparation was highly successful. The two first are cases of tuberculous affection of the abdomen, the third of a similar one of the neck. Then follows a case of the disease in the lungs, and this we shall give in the words of the author.

‘A young gentleman, of a delicate frame, had been long affected with frequent cough; but at first he did not expectorate at all. He lost flesh; his pulse increased in velocity; his respiration was frequently hurried; and his countenance and manner indicated most serious disease. He had been in this situation for many months; when, after a fit of coughing, more violent than usual, a small globular-shaped, but somewhat flocculent mass of tuberculous matter, partially tinged with blood, was discharged. This event fully confirmed my suspicions respecting the cause of the harsh dry cough, which had so long harassed him; and convinced me that tubercles existed in his lungs. Under circumstances of this kind, it is needless to say, that the most unfavourable prognostic was called for. I expected, of course, that in this, as in other similar cases, the patient would soon exhibit all the worst symptoms of pulmonary consumption. The expectoration of such matter as above described, having occurred a great many successive times, at considerable intervals, tended to strengthen my apprehensions. I dwell upon these particulars, because, without such proofs as they disclose, no fair estimate could be formed of the value of the remedy on which I chiefly relied for the removal of the complaint. I consider it, therefore, as proved, that the patient in question had tubercles in the lungs; and that they were rapidly hastening to that stage when recovery becomes almost hopeless.

‘My plan of treatment was the following: I kept him in a regulated temperature; I stimulated the chest occasionally by blisters and tartar emetic, and confined him to a strictly vegetable diet. At the same time, anodynes were occasionally used, to abate the fre-

quency of the cough. But knowing that all these means, unless the tubercles themselves could be got rid of, would be of little avail, I administered such remedies as appeared most likely to promote that object. I began with the use of Brandish's caustic alkali, in a little compound infusion of orange peel, twice a-day. After employing these remedies for some weeks, I resolved to give him the hydriodate of potass. He began with eight drops twice a-day; and continued it for three weeks without intermission. It was then left off for about a fortnight, and resumed; the quantity having been increased to ten and twelve drops. The consequence of this treatment has been an almost complete removal of the cough; an entire cessation of all expectoration; a complete freedom of breathing; a reduction of the pulse to its natural standard; a healthy state of the stomach and bowels, and a decided augmentation of flesh and strength. The patient is able to take long-continued and active exercise on horseback, and has consequently been exposed to considerable alternations of temperature, without suffering inconvenience.

'The time is not yet come to speak definitively of this case; but, so far as it goes, it is perfectly satisfactory; and affords as strong testimony as one case can give, that a most beneficial impression has been made upon the disease. Should things continue to go on favourably, I shall feel no hesitation in believing, that this was an example of tuberculous phthisis, arrested in its progress mainly, I believe, by the medicine, of the qualities of which we have been speaking.' pp. 227—228.

The following case is to the same point as the above, and with it we shall close this article.

'I take this opportunity of recording another case which, in all respects, is applicable to the subject of which we are treating. The patient, a female, came under my care about three months ago; she was affected with almost all the symptoms which characterize tuberculated accretions of the peritonæum, in a considerably advanced stage. There was weight, tension, hardness, and in some places tenderness of the abdomen; great oppression after taking food; almost constant nausea, and great irregularity in the functions of the bowels. There was likewise great emaciation and languor; a rapid, feeble pulse, and that peculiar anxious expression of the countenance, which I have elsewhere insisted upon as a strong indication of the internal disorganization mentioned above. In short, every symptom led me to believe, that that disease had actually begun to establish itself. My hopes of any essential relief, of course, were very small: but the facts already stated, clearly pointed to the sort of aid that it was necessary to attempt to procure for her.

'Leeches were applied to the tender part of the abdomen; and an ointment containing the hydriodate of potass was rubbed upon it. The action of the bowels was regulated by mild aperients; and, latterly, the hydriodate of potass was also administered internally. Two blisters were applied in the course of the treatment. The result of these remedies has been a restoration of the healthy feel-

of the abdomen; the swelling, tension, and hardness, having been altogether removed. The functions of the alimentary canal have become more natural; the pulse has diminished in frequency; the countenance has lost its expression of distress, and she has decidedly acquired flesh and strength.' pp. 229—231.

ARTICLE XII.

Formulary, for the Preparation and Mode of Employing several New Remedies; namely, the Nux Vomica, Morphine, Prussic Acid, Strychnine, Veratrine, the active principles of the Cinchonas, Emetine, Iodine, &c. With an Introduction and Copious Notes. By CHARLES THOMAS HADEN, Surgeon to the Chelsea and Brompton Dispensary, &c.—Translated from *The 'Formulaire pour la Préparation et l'Emploi de plusieurs Nouveaux Médicaments, tels que le Noix Vomique, &c. par F. MAGENDIE, Membre de l'Institut de France, &c. Troisième Edition, 1822.'* T. & G. UNDERWOOD. London. 1823.

WE have never been advocates of new remedies. On the contrary, we have taken occasion of such opportunities as have offered, to caution the readers of our Journal from too much confidence, even where the authority for the new medicine has been very good. And there has been reason for doing so. Physicians and patients, are not without credulity, and there is as much false experience in medicine, as in the other sciences. The inducements to desert the old, and to take up the new, are many. It requires much patience to watch the operation of medicine, and the progress of disease. Where the case is long, and retains many, and the most striking of its early features, we are very apt to look to the treatment, rather than to the disease for the persistency of the latter; and if, which is no uncommon case, we have exhausted the *materia medica*, the temptation is strong to resort to means which are not to be found there. Sometimes the physician does this, and sometimes the patient. If the former, a new remedy on authority is tried; if the latter, some one of those universal remedies, which though unknown as to composition, have been equally unknown to fail in the cure of all diseases. We have no sort of doubt, that in many cases, some good, and even cures have been effected by many of the novel methods which abound at the present day. And we are not unwilling to extend the same remark to some of the secret remedies which equally abound. But we want some explanation of these facts. We ask how is it that the or-

dinary well tried means, have so frequently failed, just before the discovery of the new, and that the last is successful, and comes forward afterwards to take the place of the first in the treatment of apparently similar cases? we believe the explanation to be a simple one, and it is this, (either that in the majority of cases, the new remedy has effected the cure, because during its use, no active means have been employed, and the system has rallied because no longer disturbed; or secondly that the previous method of treatment has been a bad one; or finally, that the new remedy exerts something like a specific agency in the particular case. Now in neither of these explanations do we find any just or sufficient reason for the general recommendation of the remedy. According to the first, further treatment was unnecessary; according to the second, a proper use of known means would have been successful; and in the third the result has been purely accidental. Notwithstanding all this, remedies for such reasons are obtruded on the profession, and not unfrequently by authority so good, as to unsettle some of the best established methods of treatment.

We have spoken of such new remedies as are known, both in their composition and effects. But there is another class, the secret or 'quack medicines' of the day. We have not a word to offer against the use of these remedies, when they are used on the authority of their authors, supported as it not unfrequently is by the countless multitudes which have been cured by them. Far be it from us to interfere with the liberty of taking physic, let it be by whom it may; we would as soon interfere with the liberty of the press, or of speech.

But while we most willingly concede all this to the patients concerned, we hold that physicians have no right to recommend such medicines to the public or to their patients. The charter of their privilege allows them the honest, and unrestrained uses of their own minds for the diminution of human suffering, and for averting death. But in the use of means for these great purposes, it does not allow them to resort to ignorance for knowledge, and to the unknown, when the known and the tried instead of being powerless or limited, is perplexing by its variety and its power. We have enough that is obscure if not inexplicable, in the profession itself; in the structure of the body, and the mystery of its diseases, for the exercise of all our medical faith. It is demanding too much of us that we should extend that faith to the idle tales of the ignorant and interested, and to put our consistency so frequently into requisition, lest the reports of others, or the solicitations or threats of our patients should tempt or drive us from our duty.

The practice of publicly recommending secret medicines, thus distinctly animadverted upon, exists in our own country. We are disposed to think it as common with us, as with any other people. Our newspapers are the vehicles of highly laudatory notices from physicians having authority, of medicines about the composition of which, the encomiasts are utterly ignorant, and the safe employment of which, they cannot guarantee. There is one objection which must forever lie against the professional patronage of secret remedies. The success and the emolument, convertible terms in the present case, always have led and will lead to imitations, or fabrications of something purporting to be the same with the original panacea. And what honest physician will assume the gratuitous responsibility which in this event is necessarily incurred. The original may have been innocuous. The exact diet and regimen required during its use, and which is so unhesitatingly and faithfully followed by believers, may have been curative. But who will vouch for the harmlessness of the imitation? The physician we answer who gave his public sanction to the original, virtually does this, for his name is made the patron of all the succeeding imposture.*

Far be it from us to interfere with the unrestrained spirit of inquiry which so remarkably distinguishes this age. It is truly an age of inquisition, and much truth and much prejudice are alike put to the question. But there is no department of learning which should be tried with more patience, or altered with more caution than physical science. That part of it which belongs to us, deserves peculiar care. There have been periods in its history, in which individuals have had a wide influence, and regulated opinion and practice. The whole contemporary age, which was thus governed, was in fact at the same time testing the truth of both of these. Some of their methods survived the changes that followed, and have reached us. These we are bound to preserve. We should do so, because so little respect is paid to the opinions of individuals, whether by the profession generally, or by the individuals themselves. A reason for this last remark may be found in the case of one of the most popular writers of the day, Dr. Armstrong. This author has within a year or two published a recantation of his published opinions respecting a very important point in the etiology of typhus fever; and within the last year, an equally remarkable modification of his views, respecting the treatment of puerperal

* While we are writing this, we have observed a notice in the National Gazette to the public that SWAIM'S PANACEA, has been counterfeited, and solemnly warning them not to make use of the spurious article.

fever. Now these are among the works which have established Dr Armstrong's present reputation, and which will connect him intimately with the future literature of his profession. The course he has lately taken is highly honourable to him, and it would not have been alluded to, were it not that we were anxious to avail ourselves of the best authority, when lifting our testimony against the prevailing rage for novelty amongst us, and the professional patronage, that has been bestowed on its most unworthy forms. The late Dr Rush taught that the discovery of a new principle in medicine, or a new remedy deserved a public monument. We should say, that it is the course of wisdom, and of fame too, to give new illustration and support to that which has survived the changes which are abroad; and we say so, because this is the true way of removing the useless lumber which now so much obstructs the profession, and of checking the useless additions to it, which innovation, called discovery, is daily making.

The work at the head of this article contains an account of 'New Remedies,' by F. Magendie.

M. Magendie's hard earned reputation, makes what he writes deserving of much confidence and respect. Mr Haden was well qualified from his previous inquiries to translate this work, and to add to it such notes as would adapt it for the use of English practitioners, and to confirm some of the views of the author. New remedies are of two classes. The first comprises such as have been long known, but have been recently applied, either after a new manner, or in diseases which have been before treated by different means. Such for instance is the employment of carbonate of iron in *Tic Douloureux* by Mr Hutchinson; and of tartar emetic in inflammatory diseases, and blistering plaster in rheumatism, by M. Odier of Geneva and Balfour of Edinburgh. The second embraces articles which are strictly new; or new forms of medicines long known. Mr Magendie's work is confined to these last.

This volume, independently of the strictly professional bearing of its contents, contains much that is curious and interesting. It brings a great deal of new light to the obscure subject of vegetable chemistry, and the author gives the additional interest of practical value, to his discoveries. This and similar works make an æra in *materia medica*. In one of the periods, and the earliest of this science, medicinal substances were administered in their simplest forms. A great many were mixed together in the same prescription it is true, but each of the ingredients entered into the compound very much in its native state. At this period, the profession trusted principally to

vegetable medicines, for few metallic ones were known, and a great prejudice existed against the employment of these. In the next period, the substances were submitted to various simple processes, by means of which the elements or principles which were most separable from each other, were separated; while the more insoluble parts were rejected. More complicated processes followed, but still the ultimate principles were not reached. In the later periods, chemistry has been resorted to in the investigations, but rather in view to the advancement of that science, than of medicine. In the latest, the products of the chemical analysis have been employed in medicine. In this very rapid sketch some of the leading points in the progress of *materia medica* have been glanced at. The two extremes of the history have most to interest us, and we shall notice that to which our own times belong.

The conjecture was certainly a very natural one, that the quality which exists in a medicinal substance in the most remarkable degree, existed in some one of its constituent elements more than in the others. The simple fact that the same part of a vegetable exhibits a variety of effects when taken into the human stomach, makes this very probable. The experiments of Magendie and others have reduced this to certainty. They have further discovered that the peculiar property, be it what it may, constitutes but a small part of the whole mass and exists in great intensity; and hence, the quantity of medicine necessary to produce certain effects, and which may be safely given, is very small. Thus a single grain, nay the fourth or the eighth of a grain of the elementary substance will produce the effects of fifty or sixty of the whole substance. Lastly, many of these products have peculiar chemical properties, and occur in certain determinate forms. They are alkaline for instance, and crystallize after fixed laws. These are very curious facts. It is a great comfort to a sick man, and particularly so to a sick child, to take as little medicine as possible. Now the advantage is truly great if a very minute quantity will produce all the effects we can possibly desire. This reminds us of another very distinguishing circumstance between the 'new remedies' and the old ones. The new ones are frequently less nauseous than the old, and what remains in them of this quality may be effectually concealed. Some common and very powerful medicines, we before remarked, possess opposite properties. There is a characteristic one it is true in most of the active ones, but there is frequently combined with this, some other which interferes much with the purposes we have particularly in view in giving them. This is especially the case with opium. Now

the late discoveries, or the new processes, enable us to separate entirely these discordant principles, and we can at pleasure put the patient to sleep or keep him awake, by giving him either one or the other of the active principles of the substance. Now if this be all true, if we have such command as this of the most important instruments of our art, the practice of medicine, at least one department of it, is in a fair way to perfection. But the spirit of caution still attends us. Some things seem to go before the time, but it is a deep principle in our natures which makes men more timid in their progress, and most fearful of disappointments, when the end of toil is at hand, and success seems most certain. We should be disposed to regard these discoveries as highly curious and interesting facts in the history of our art. But we should not feel willing to lose the old remedies, nor our skill in employing them. We all acknowledge the superior effects of some of our combinations of opposite, or at best different remedies which we so frequently employ, over either of the articles when employed alone. We combine mineral and vegetable products, stimulating and sedative, nauseating and cordial, after a great variety of manner, and daily witness their salutary effects. Something like these combinations exist ready made in the simple products of nature, and in some substances in a perfection that is beautiful, if we may apply the term, as it perhaps was never applied before. Now we feel jealous for these old friends, and have not learnt to love them in their new faces; and if we thought there was a chance of their being supplanted, by any new ones, we should at once join issue and contend to the last. We will however now give a very fair account of the new remedies, for we will do it for the most part in the words of the author.

The first in the list is the *Resin of the Nux Vomica*. In the course of experiments on the bitter *Strychnos* communicated to the Institute in 1809, M. Magendie observed that this whole class of vegetables had the singular property of powerfully exciting the spinal marrow without involving, except indirectly the functions of the brain. Dr Fouquier had also for some time noticed the beneficial effects of this class of vegetables in paralysis. M. M. has continued his experiments, and employed the substance in the form of an alcoholic extract in partial and general paralysis, and in other states of weakness with excellent success. The following is the formula for its preparation.

‘MODE OF PREPARING THE ALCOHOLIC EXTRACT OF THE NUX VOMICA.

‘Take a determinate quantity of rasped *nux vomica*, exhaust it by

repeated macerations in alcohol of 40° (.817), and evaporate it slowly to the consistence of an extract.

‘Alcohol of much less strength may be used, but the product is proportionably less active.

‘*Dry alcoholic extract of the nux vomica*.—Dissolve in water the alcoholic extract of the nux vomica, made by means of alcohol at 36° (.837); filtrate it, and evaporate on evaporating dishes, as in making the dry extract of quinquina.

‘PHYSIOLOGICAL PROPERTIES.

‘A grain (gr. 0.32 Troy) of this extract, absorbed from any part of the body, or mixed with food, promptly destroys a dog of considerable size, by inducing paroxysms of tetanus, which by their continuance stop the respiration long enough to produce complete asphyxia.

‘When the dose is much stronger, the animal appears to perish entirely from the action of the substance on the nervous system, as M. Ségales has lately demonstrated. (See my *Journal de Physiologie Expérimentale*, for October, 1822.)

‘If an animal be touched whilst under the action of this substance, it experiences a commotion similar to that of a strong electrical shock; and this takes place every time the contact is renewed.

‘Dividing the spinal marrow behind the occiput, and even complete decollation, does not prevent these effects, nor even their continuance for some time. This characteristic action of the alcoholic extract of the strychnos distinguishes it from all other exciting substances at present known.

‘On dissection no lesion is discovered which can indicate the cause of death.’

The following is the account of its action on the unhealthy human body.

‘The effect is still the same on man when affected with paralysis; but what is very remarkable, it is particularly manifested in the paralysed parts: it is there that the tetanic commotions occur, as well as a creeping feeling, which announces the action of the remedy; a local perspiration also breaks out in the same parts, which is not observed in the rest of the body. In cases of hemiplegia submitted to the action of the nux vomica, the halves of the body exhibit a striking contrast; for whilst the healthy side is at rest, the other is violently agitated; tetanic shocks soon succeed, and an abundant perspiration breaks out. In one female the affected side was covered by a peculiar eruption, whilst the opposite afforded no trace of it: even the two sides of the tongue differ; a decidedly bitter taste being perceived on the one side, whilst the other offers nothing similar.

‘If a larger dose be given, the two sides of the body participate, but unequally, in the tetanic effect; so that the patient is sometimes thrown out of bed by the violence of the tetanic paroxysm.

‘The alcoholic extract of the *nux vomica*, when given in very small doses, has, like many other remedies, no perceptibly immediate effect; and some days pass over before its advantageous or noxious properties can be appreciated.’

Mode of exhibiting the Resin of *Nux Vomica*.

‘This remedy is best given in the form of pills when the practitioner wishes to produce the tetanic commotions, that is to say, when he wishes to have its apparent effect. If each pill contain a grain of the extract (gr. 0.82 Troy), one or two may be given at first, and this daily augmented until the desired effect be produced; the medicine must then be discontinued, to avoid accidents. It is better to give the pills in the evening, because night is the best time for observing the phenomena which we wish to produce.

‘It is sometimes necessary to increase the dose to from 24 to 30 grains (from 19.68 to 24.6 Troy) in the day before the tetanic convulsions are produced, but generally from 4 to 6 grains (gr. 3.28 to 4.92 Troy) are sufficient.

‘If the exhibition of the remedy have been accidentally interrupted for some days, it is necessary to recommence with the smaller doses, and to increase them again gradually, as before.

‘When it is desirable to produce only the slow effects of the remedy, a grain (0.82 Troy), or a grain and a half (gr. 1.23 Troy), in the day, is sufficient; or the following tincture may be used:—

Tincture of Nux Vomica.

‘Take of

‘Alcohol of 36° (.837) 1 ounce (7 dr. 52.56 gr. T.)

Dry extract of *nux vomica*, 3 grains (2.46 gr. T.)

‘This tincture is to be given by drops, in mixture or in drink, whenever the alcoholic extract in substance is indicated.’

Strychnine. This name is given to a peculiar vegetable alkali contained* in the *strychnos*, and to which they owe their most peculiar properties. It was discovered by MM. Pelletier and Caventou.

Mode of preparing strychnine.

‘Add a solution of liquid subacetate of lead to a solution of alcoholic extract of the *nux vomica* in water, until no more precipitate be thrown down; the foreign matters being thus separated, the strychnine remains in solution with a portion of colouring matter, and sometimes an excess of acetate of lead. Separate the lead by sulphuretted hydrogen; filtrate it, and boil with magnesia, which will unite with the acetic acid, and precipitate the strychnine. Wash the precipitate in cold water; redissolve it in alcohol, to separate the excess of magnesia; and by evaporating the alcohol, the strychnine is obtained in a state of purity. If it be still not perfectly white, it must be redissolved in acetic or hydrochloric acid, and reprecipitated by means of magnesia.

'Strychnine obtained by crystallization from an alcoholic solution which has been diluted by means of a small quantity of water, and left to itself, appears under the form of microscopical crystals, forming four-sided prisms, terminated by pyramids with four flattened or depressed faces. Crystallized rapidly, it is white and granular; it is insupportably bitter to the taste, and gives an after-sensation similar to that produced by certain metallic salts; it has no smell; it is not changed by exposure to the air; it is neither fusible nor volatile, for when submitted to the action of heat, it only fuses at the moment of its decomposition and carbonization; it is decomposed by a degree of heat inferior to that which destroys most vegetable substances. Exposed to the naked fire, it swells, becomes black, and gives out an empyreumatic oil, a little water, and acetic acid, and also carbonic acid gas, and carbonated hydrogen; distilled with deut-oxide of copper, it gives out much carbonic acid, and only slight traces of azote.'

Pelletier has discovered that *nux vomica* contains two alkaline substances. Strychnine and Brucine, which the last of this chemist and Caventou had before discovered in the *angustura spuria*. The brucine may be easily separated from the strychnine by crystallizing the substance frequently in alcohol. The separation is effected by the superior solubility of the brucine in the alcohol. Its presence however is of no great consequence, and it has common properties with the strychnine, only being weaker.

Strychnine may be employed in the same cases with the resin of *nux vomica*. It is preferable to it, because its properties are constant, and its action uniform. The same cannot be said of the other.

Mode of employing strychnine.

'It may be made into pills, each pill containing one-twelfth or one-eighth of a grain, and the following formula may be used:—

' *Pills of Strychnine.*

'Take of

Very pure strychnine 2 grains (1.64 gr. T.)

Conserve of roses $\frac{1}{2}$ gros (29.5 gr. T.)

'Mix accurately, and make it into twenty-four very equal pills and silver them, to prevent them sticking to each other.*

' *Tincture of Strychnine.*

'Take of

Alcohol at 36° (.837) 1 ounce 3 vij. and gr. 52.56, T.)

Strychnine 3 grains (2.46 gr. T.)

* We are accustomed in England to prevent pills from sticking together by rolling them in liquorice powder, or magnesia, or flour; the old plan of gilding and silvering pills is very inconvenient, for if it be perfectly done, the pills will be effectually preserved from the action of the stomach.—Tr.

‘From six to twenty-four drops of this tincture may be administered in mixture or in drink.’ p. 15.

Morphine, and the Salts of Morphine. Its preparation. We give Dr Paris’ statement of Robiquet’s process, one of the methods in the work.

‘Three hundred parts of pure opium are to be macerated, during five days, in one thousand parts of common water. To the filtered solution fifteen parts of perfectly pure magnesia (carefully avoiding the carbonate) are to be added. Boil this mixture for ten minutes, and separate the sediment by a filter, washing it with cold water until the water passes off clear. After which, treat it alternately with hot and cold alcohol (12.22° Beaumé) as long as the menstruum takes up any colouring matter. The residue is then to be treated with boiling alcohol (22.32° Beaumé) for a few minutes. The solution, on cooling, will deposit crystals of morphia.’ p. 19. (Pharm. vol. ii. p. 313.)

The action of this substance is narcotic.—Two preparations of morphine follow; the acetate and sulphate. The following are the formula.

‘This salt is formed by combining directly, in an evaporating dish, acetic acid and morphine, and letting the mixture slowly evaporate to dryness. The difficulty of obtaining it crystallized, on account of its extreme deliquescence, renders it necessary to adopt this mode of preparation.*

‘PREPARATION OF THE SULPHATE OF MORPHINE.

‘Dissolve the morphine in sulphuric acid, previously diluted with water. The solution, made hot and evaporated to a certain point, crystallizes, on cooling, in silky tufts. This salt very much resembles the sulphate of quinine, with which it may be confounded; but it becomes red when treated with concentrated nitric acid, which is not the case with the sulphate of quinine.’ pp. 23, 24.

The dose of either of these in any convenient vehicle, is from a quarter to a grain daily. The French grain which is employed in this work is rather less than the grain Troy, and is thus expressed 0.820 Troy. Another of the principles in opium is narcotine. This possesses the stimulating and constipating properties of this medicine, and a method is given for separating it from morphine. It is highly probable that the *liquor opii sedatius* of Mr Battley of London, the preparation of which is very unworthily kept secret, is a preparation of opium deprived

* The *acetate* of *morphia* crystallizes in soft silky prisms, which are very soluble; the *sulphate*, in aborescent or branching crystals, soluble in two parts of water at 60°; the *carbonate*, in short prismatic crystals, soluble in four parts of water at 60°. (Thomson’s Dispensatory, p. 419.)—Tr.

of its narcotine. The following is M. Robiquet's method of depriving opium of narcotine.

'He macerates coarsely divided opium in cold water. He filtrates and evaporates to the consistence of a thick syrup. He digests in rectified ether, and, after frequent shakings, decants the ethereal tincture, and then separates the ether by distillation. He repeats this operation as long as crystals of narcotine appear as the residue of the distillation. When the ether produces no further effect, he evaporates the solution of opium to a pilular consistence, and thus obtains an extract which is entirely devoid of narcotine.' p. 31.

Emetine. Of this we have two forms the pure and the coloured. The last is first described. This is a particular immediate principle of ipecacuanha to which it owes its emetic property. This is its preparation :

'Powder the ipecacuanha, and digest it in ether at 60 degrees (720) to dissolve the fatty odorous matter. When the powder yields nothing more to the ether, exhaust it again by means of alcohol. Place the alcoholic tinctures in a water bath, and redissolve the residue in cold water. It thus loses a portion of wax and a little of the fatty matter which still remained. It is only necessary further to macerate it on carbonate of magnesia by which it loses its gallic acid, to redissolve it in alcohol, and to evaporate it to dryness.

'*Emetine*, when thus prepared, is not quite pure, as we at first thought. But it may be used with advantage as a medicine in this state.* It appears in the form of transparent scales of a reddish brown colour. It is nearly devoid of odour. It has a bitter, but not nauseous taste. It is capable of supporting the heat of boiling water without change; is very deliquescent, soluble in water, and incrustallizable.' pp. 32 33.

Its action is thus described :

'Two grains (gr. 1.64 T.) of *emetine*, swallowed fasting, produce continued vomiting, followed by a decided disposition to sleep. Even a quarter of a grain (gr. 0.205 T.) is sometimes sufficient to produce nausea and vomiting.

'ACTION OF EMETINE ON MAN IN A STATE OF DISEASE.

'*Emetine* acts in this case exactly in the same way as it does on man in a state of health. It vomits and purges, as in the former; in addition, however, it is easy to prove that it exerts a happy influence on catarrhal affections, especially when chronic.†

'The cases in which *emetine* may be employed are exactly such as ipecacuanha may be used in.' pp. 34, 35.

* See the following article on *pure emetine*.

† See Chemical and Physiological Researches on Ipecacuanha, by MM. Magendie and Pelletier. Paris, 1817.

In using emetine, 4 grains (gr. 3.28 T.) may be dissolved in any vehicle, and should be given in divided doses, repeated at short intervals. The pure emetine is colourless, is much more energetic, and must of course be given in smaller doses than the coloured. A formula is given in the volume for its preparation.

Alkalis extracted from the different species of cinchona.

The facts under this head are very curious. Two alkalis have been obtained from bark, quinine and cinchonine: From the grey cinchona, the cinchona condaminea, an alkali was obtained, since called *cinchonine*; from the yellow, cinchona cordifolia, another alkali named *quinine*; and from the red, a quantity of cinchonine threefold in quantity greater than is afforded by the grey bark, and twice as much quinine as the yellow. The following is the preparation of these alkalis:

‘Boil the bark in alcohol until it loses all its bitterness; evaporate to dryness in a water bath; dissolve the alcoholic extract entirely in boiling water, strongly acidulated with hydrochloric acid; add an excess of calcined magnesia, which, after boiling some minutes, will fix all the red colouring matter, and make the liquid clear. When cold, filtrate and wash the magnesian precipitate with cold water; dry it on a stove; separate all the bitterness by repeated digestions in boiling alcohol; mix the alcoholic liquors, and the cinchonine will crystallize as the fluid cools. The cinchonine, which is thus obtained, still contains a green fatty matter, which may be separated by solution in a very weak acid. If the acid be too strong, it will dissolve a part of the fatty matter, and the intended object will be thus defeated.

‘Quinine may be obtained from the yellow bark by a similar process to the one described above.

‘It has been said that both cinchonine and quinine are to be found in all the three species of bark. They may be procured by one operation, as follows:—

‘After having obtained directly the sulphate of quinine, by the process described below, collect the mother waters and the washings of that operation; these contain the sulphate of cinchonine. It is probable that the sulphate has been rendered incrySTALLIZABLE by the small quantity of fatty matter which is contained in these liquors. Decompose these liquors by magnesia or lime. Dissolve the quinine and cinchonine which they contain by digesting the magnesian precipitate, when washed and well dried, in boiling alcohol. If the spirit be sufficiently charged, the cinchonine, which predominates, will crystallize; if it do not, further concentration is required. To purify the cinchonine which is thus obtained, it must undergo a recrystallization. For this end, dissolve it in a sufficient quantity of boiling alcohol: it will thus become very pure. The alcoholic mother waters still contain quinine, which may be separated by evaporation.’ pp. 44—46.

These alkalis have affinities for acids. Three such combinations are mentioned: viz. a sulphate of quinine, an acid sulphate, and an acetate. The two first have been successfully given in diseases which are ordinarily treated by bark, and the following extract contains the mode of exhibition.

‘MANNER OF EMPLOYING THE ALKALIS EXTRACTED FROM THE CINCHONAS.

‘The sulphates of quinine and cinchonine are the preparations most commonly employed. From one to ten grains (gr. 0.82 to gr. 8.20 T.) of either of them may be given in the twenty-four hours. Some physicians have thought it necessary to carry the dose much higher than this, but in general the success has not answered to their expectations; several patients, indeed, have experienced somewhat severe accidents, such as great agitation with very strong cerebral excitement. In no case have I been obliged to give more than ten grains (gr. 8.204 T.) in the twenty-four hours, and I have never found it to fail in its effect.

‘M. Pelletier has prepared, according to my formula, a colourless and transparent syrup of cinchona, each ounce (7 dr. 52 gr. T.) of which contains two grains (gr. 1.64 T.) of quinine. I daily use this preparation with the most satisfactory results; it appears to me to exert a happy influence over the scrophulous affections of children.’ pp. 52, 53.

Veratrine. This new alkali was, like the last, discovered by MM. Pelletier and Caventou. It is this substance which gives activity to the vegetable family named veratrine. Its chemical properties are easy solution in ether, and more easy solution in alcohol; little solubility in cold water; hot water dissolving $\frac{1}{1000}$ its weight. It is insoluble in alkalis, but soluble in all the vegetable acids. It saturates all the acids, but with the sulphuric alone affords sediments of crystals, when the acid is in excess. Veratrine is a very active purgative. One quarter of a grain induces very abundant dejections. The author has given two grains in 24 hours, without producing hyper-catharsis. This was in an old man, who had some time before, suffered apoplexy. M. M. says he tasted the preparation which contained the medicine given in this case, and experienced in consequence for several hours, an insupportable acrid sensation in the mouth and pharynx. The impression continued till the following day. The patient suffered no such inconvenience. The cases in which veratrine may be given, are those in which the various species of veratrine and colchicum have been employed.

Prussic or Hydro-cyanic acid. This is next in order. Passing this, we come next to *Solanine*; then to *Delphine*, and *Gentianin*, new alkalis obtained by chemical processes from the

plants, from which they derive their name. We shall not notice them farther, nor *Iodine*, which has of late excited so much attention, and about which we have already in former numbers published so much. The next articles are, Extract of opium deprived of morphine, and extract of opium deprived of the matter of Derosnes. *Lupuline*, a substance remarked in the hop by Dr Ives of New-York, but which had been before described in France by M. Planche, and more recently by MM. Chevalier and Payen, is next described, and the volume closes with an account of *Brucine* an organic salifiable base, discovered in 1819 by MM. Pelletier and Caventou, in the bark of the false angustura (*brucea antidysenterica*). This curious substance is obtained after a similar manner with strychnine, and has similar medicinal properties. It is less active than strychnine, and may be given in doses of one, two, or even three grains. It may be given in the same cases. Its claims to a place among the 'new remedies' however, are not yet established.

ARTICLE XIII.

A Practical Essay on Typhous Fever. By NATHAN SMITH, M.D. Professor of the Theory and Practice of Physic and Surgery in Yale College. New-York: Bliss & White. 1824. pp. 88.

THIS work contains many opinions, both with regard to the nature and history, as well as the treatment of Typhous Fever, which differ considerably, and in pretty important points, from those of many practitioners. We propose, therefore, to give as complete an account of them as our limits will permit.

Typhus, according to Dr Smith, is not properly 'a state of fever,' but 'a distinct disease.' This opinion he advances in the following words.

'The Typhous Fever, as far as my experience, which has been considerable, enables me to judge, is a disease *sui generis*, exhibiting as little variety in the different individuals affected by it, as some of the diseases which are acknowledged always to arise from contagion. If its duration is not so uniform as some of the contagious diseases, it is less irregular than others which spring from specific causes, as for instance the intermitting fever.' pp. 15, 16.

Connected with this view of the specific character of the disease, Dr Smith is also a believer in its contagious nature. That Typhus is contagious, he asserts to be a fact as clearly demonstrable, as that measles, small pox, &c. are so, and he brings for-

ward a few instances which appear to him sufficient to establish the fact.

‘A young man, a pupil of mine, was attacked with the Typhous Fever, from which he recovered with difficulty. Some of his family, who lived about forty miles distant, came and took care of him during his sickness. Upon his recovery, they returned home in good health, but soon after sickened with the same disease, and communicated it to others, who had not been exposed in the first instance. From this, it spread to numerous other families in the vicinity, who had been exposed to the contagion. In the whole town where this occurred, there had been no case of Typhous Fever for many years, till brought there by the circumstances above related.

‘During the prevalence of the Typhous Fever in Thetford, (Vt) a woman went there from Chelsea, about ten miles distant, to visit and administer to a sister sick of this disease. Upon her return, she was herself attacked by it and soon after died. Others of her family contracted it of her; and in about four weeks, there were thirty persons taken down with Typhus, all of whom had been exposed to the contagion.

‘A young man belonging to Plainfield, (N.H.) who had left his friends, and resided for some time in the western part of the state of New-York, returned to his father, who had a numerous family. He found himself unwell before he reached home—was immediately confined with Typhus, and soon sunk under the disease. In about four weeks after, I was called into the family, and found nine members of it sick of the same fever.’ pp. 12, 13.

Our author believes also, not only that Typhous fever is capable of being communicated by contagion, but incapable of communication in any other way. It is the opinion of many physicians, and among others of the writer of an article upon Typhus in the *Edinburgh Review*, and we believe of Dr Armstrong also, that although this disease may be produced by exposure to its contagion, yet that it is also frequently produced in individuals by general causes, such as errors in diet, exposure to cold, an epidemic state of the atmosphere, marsh miasmata, or confinement in close and crowded apartments. Dr S. allows that it is difficult to be certain upon this point, but, says he, ‘the fact of the absence of Typhus in a large section of country for an interval of more than twenty years, would lead us to doubt the possibility of its being produced by any of the accidental causes above enumerated; for in such an extent, and among so many people, it is impossible but that some of these circumstances should have occurred—and the disease of course be produced. Besides, if it can be communicated from one person to another, it has a specific cause, and I know no disease that arises from a specific cause that can be produced without the agency of that cause.’ pp. 14, 15.

Another point of resemblance which our author notices between Typhus and those diseases which are commonly admitted to be contagious, is that it rarely affects the same individual twice. Of the truth of this statement, he speaks strongly from his own personal experience. During twenty-five years which have elapsed since he first began to visit patients afflicted with Typhous fever, in which time he has seen many hundreds and witnessed its prevalence several times in the same village, he has 'never known or heard of its recurrence in the same person.'

'I once attended a numerous family, every member of which was sick of Typhus, except two, who escaped at that time; but two years afterwards, when the disease again appeared in that neighbourhood, those two individuals of the family, and those alone, were attacked.

'In another family, which I attended, consisting of eight persons, five of the eight had the disease during the autumn, and early part of the winter, and recovered. The next summer, the remaining three and another person, who had been added to the family after the former sickness, were attacked by it, while all those previously affected escaped.' pp. 17, 18.

Dr Smith believes Typhus to be identically the same with those diseases which have existed at different times in different parts of our country, under the names of long fever, slow fever, nervous fever, putrid fever, &c.; and that it has prevailed more or less extensively in America, ever since its discovery. He admits also that it is the same with that described by Europeans, particularly English writers, under the same name. He notices a circumstance with regard to its propagation in this country, which, if proved to be a fact, is indeed sufficiently remarkable, viz. that he has never known an aboriginal inhabitant to suffer from it, and that having consulted several physicians, who have lived many years in the vicinity of Indian tribes and have visited them in sickness, they have all agreed in asserting that they had never seen a native attacked with Typhus.

Typhus has prevailed, according to our author, in every part of the United States. He has not found it confined to any particular season, but has seen it attended with all its characteristic marks in every month, or even in every day of the year. Neither does it seem to affect one sex more than the other, although more females die, in consequence of its appearance during pregnancy and soon after parturition. No age is exempt, since even infants at the breast have been seized by it, so that 'it may be said to attack all ages from the cradle to the grave.'

Although it is probably at all time in existence somewhere in the country, particular sections appear for a considerable length

of time to escape its ravages. An instance is given us of its absence for 28 years from the town where Dr S. commenced the practice of physic (Cornish, N.H.) Since its re-appearance, however, he has 'never so far lost sight of the disease, as to be unable to follow it in its changes from one place to another, and to tell where it was prevailing.'

'Indeed it seems to possess a migratory character, and travels from place to place, and after remaining in one village a longer or shorter time, as, from one year to two or three, it ceases and appears in another. I have not observed that situation has any influence either in producing or preventing this disease. It affects alike persons living on mountains and in valleys, on plains and the banks of rivers, and on the borders of lakes and stagnant ponds.' p. 10.

Taking the most obvious meaning of his language, it would seem to be the opinion of our author, that there is no such thing as simple idiopathic fever. Typhus, as we have seen, he considers not as a state of fever, but as a specific disease, *sui generis*, and propagated by contagion solely. In addition to this, he makes the following assertions:--

'It will be observed, that simple inflammatory fever is not mentioned as one of the diseases with which it may be confounded. The reason is, that no such disease has ever fallen under my observation.

'Although I have practised physic and surgery for thirty-five years pretty extensively in all the New-England states, except Rhode-Island, and have lived in New-Hampshire, Vermont, Connecticut and Maine, I have never witnessed a single case of continued fever, except Typhus, which was not either the effect of contagion, as the small-pox, measles, &c. or evidently connected with local inflammation, and dependant upon it.' pp. 21, 22.

Those cases which by ordinary practitioners are considered and treated as cases of simple continued fever, inflammatory fever, bilious fever, &c. he sets down as nothing more than acute disorders of the digestive organs, or those bilious affections which take place in the latter part of summer and the commencement of autumn.

We have given in these few pages a very brief, but we believe an accurate sketch of the opinions of our author with regard to the nature and origin of typhous fever, or, as it should be perhaps more consistently denominated according to his hypothesis, simply typhus. In this account there are some things worthy of remark, and in the first place we would allude to the obscurity which characterizes the language in which he expresses himself with regard to the nature of typhus and its relation to other diseases. Typhus, he says, in one place is a distinct disease, a dis-

ease *sui generis*, a specific disease, and not a state of fever, plainly implying, if words can imply any thing plainly, that he does not view typhus as a fever in the common sense of the word. And yet in a passage which we have just quoted are contained the following words: 'I have never witnessed a single case of continued fever, *except Typhus*, which was not either the effect of contagion, as the small-pox, measles, &c. or evidently connected with local inflammation and dependant upon it.' Here the language most clearly implies, that typhus is a continued fever, and the only idiopathic continued fever.

So far as we have been able to comprehend exactly what doctrines Dr Smith wishes to inculcate on this point, we believe them to be these, that typhus is really an idiopathic fever, and the only one; and that it is not, as physicians in general believe, merely one of the forms or types in which continued fever manifests itself; that it depends upon a specific contagion for its origin and propagation, and exhibits a strong analogy in many points to the contagious febrile diseases, and like them runs through a certain course, which differs only in being more indefinite as to length; that the other affections called continued fevers, viz. synocha and synochus, are not primarily febrile disorders, but take their origin in some local disturbance, of the stomach or liver for instance, and thence sympathetically produce in the system a state of excitement which passes for fever; but which state never does and never can terminate in typhus, any more than small-pox can terminate in measles, or measles in cow-pox.

This we candidly believe to be the substance of the opinions which Dr Smith intends to advance in the first twenty pages of his work, and in this form they are at least intelligible and consistent, which is more than can be said of his own account of them; nothing can be more careless and apparently hasty, than the manner in which they have been arranged and committed to paper. If this be not a fair representation of his opinions, we take no blame to ourselves; for we have endeavoured to weigh his language candidly and carefully, and to select from it the most consistent meaning we could.

Another remark we wish to make is, that if these opinions and this account of typhus be well founded, it is incomparably a more rare disease than we have been accustomed to consider it. Indeed we should hardly dare to assure ourselves, that we have ever encountered a genuine case of this disorder. For although patients are doubtless frequently met with among us, who have all the symptoms which are set down as serving to designate typhus, and who undergo such a regular course of disease as Dr

Smith believes to be necessary in a genuine case, yet these affections do not allow us to mark them off by a clear line of distinction from all other fevers. There is no appearance of any thing specific either in the causes of the disease or in the course which it pursues. The distinction we are able to make is not merely less clear and decided than that which we are able to make with regard to measles and small-pox, but makes no approach to it. The severe and remarkable cases are distinct enough; but besides these there is a vast multitude of others varying from them in every possible degree of severity; presenting various degrees of resemblance from very close to very slight; and passing gradually from the true typhoid type, into the simple continued fever, or acute gastric affection of Dr Smith. Now that there can be a strictly specific disease thus merging itself in an affection arising from ordinary causes, is contrary to all analogy and experience; we do not find it true of any disease allowedly specific, and we are not yet prepared to believe it. We must conclude, therefore, either that Dr Smith is mistaken in his views of this point, or that typhus is a disease with which we are in this vicinity so fortunate as to be yet unacquainted.

We admit it to be probable, that a great many of the cases which are set down as fever, and even as typhous fever, are in reality, as Dr Smith considers them, simply acute affections of the digestive organs; but we protest against the throwing together, by wholesale, of *all* the cases which we usually call fever, under this denomination; cases of which there is the same proof, neither more nor less, that they are primary and idiopathic, as there is that typhus is so. The term typhus among us, and we believe in this quarter generally, has been for some time applied very loosely. It is given in fact to almost all febrile cases of whatever kind, and has at length come to be nearly synonymous with fever. The importance attached to names by our patients and their friends, is the cause doubtless of this inaccuracy. Nervous fever and putrid fever have had their turn, and answered the purpose, in their day and generation, of satisfying the anxiety of inquiring friends. But typhus has now taken their place. It gives a formidable aspect to a mild case, and is an excellent cover for a bad one. It is a good travelling name, and has seen many hundreds of patients safely through diseases which bear no more resemblance to typhous than to yellow fever.

But to return to the work before us. After some theoretical remarks upon the effects of typhus upon the circulating system, and upon the nature of the cold stage, Dr Smith proceeds to an account of the symptoms of the disease.

‘The symptoms of this disease, may be divided into such as affect the functions of animal life, and those of organic life.

‘The changes produced in animal life, may be referred to affections of the mind, of the organs of sense, sensibility and voluntary motion.

‘Those occurring in organic life, to changes produced in the respiratory, circulatory and digestive systems, to secretion and excretion generally, together with its effects on the animal heat.’ p. 28

Of the symptoms of the first class, in the early part of the disease, are—dull aching pains in the head, back and limbs; a sense of lassitude and fatigue; soreness of the flesh; a disinclination to make any mental exertion, forgetfulness, inability to measure time, total incapacity to pursue any train of thought, or to attend to business. Later in the progress of the disease, delirium appears, and is sometimes constantly present, at other times only in the night; later still, coma supervenes, though it is not often so profound, but that the patient may, for a short time, be aroused from it. Sometimes patients are strongly impressed with particular notions which are obliterated with difficulty even after their convalescence; in some cases, insanity has appeared instead of delirium, and at the same time the peculiar symptoms of typhus have abated; in some, the occurrences of the sickness are entirely and permanently blotted from the memory. The sense of hearing is frequently impaired; that of sight but seldom. The eyes, however, present a peculiarly languid and heavy appearance, are a little watery, and although there is no inflammation, the vessels of the conjunctiva often become red, and in the latter stage turgid, and of a dark colour; its secretions are frequently thick and viscid, they accumulate in the corners of the eyes, grow dry and appear like scabs. The voluntary motions are unsteady; the tongue is tremulous when protruded, and the hand when raised to the head; the muscles of different parts of the body are agitated, particularly during sleep, producing momentary distortion of the face and subsultus tendinum. The voice at first is usually rather small and plaintive, but afterwards, particularly in bad cases, becomes guttural and sepulchral. The moral principle appears in some instances to be affected, and Dr Smith refers to the case of one person, who, having previously always maintained a good character, acquired after suffering from typhous fever, so strong a propensity for stealing, as to take some articles of clothing from a young man to whom he was under great obligations, for care taken of him during his sickness. He was at length detected and punished for theft.

Of the symptoms of the second class, are those affecting the circulation, respiration, digestion, secretion, &c. The pulse are

increased in frequency without fulness and without any considerable degree of hardness, from the commencement of the disease; they are generally easily compressed, and in severe cases are remarkable for an undulating stroke, or a second small beat following each full one. The animal heat is always deranged. At first the patient is chilly, sometimes for three or four days, but afterwards hot. The heat, however, is unequally diffused over the body, and is subject to exacerbations at uncertain times, though early in the disease the most marked takes place commonly in the evening; hemorrhage sometimes occurs, generally from the intestines, not unfrequently from the nose, and rarely from the kidneys; in adult females often from the uterus. Livid spots sometimes appear on the skin, and blisters which have been drawn become black and gangrenous. The effect on the secretions is sudden and universal. The saliva is generally diminished in quantity and becomes glutinous, with great thirst; but sometimes, on the other hand, this secretion is augmented, frothy, mucous, and unaccompanied with thirst. The tongue is at first covered with a white fur, which in the progress of the disease, becomes yellowish, brown, and black. After becoming black it cracks, and peels off, leaving the tongue smooth, dry and very red. It again appears and goes through the same changes, in severe cases, several times. The teeth are incrustated with a brownish matter, which adheres to them closely near the gums; and the fauces are covered with a thick, tough mucus, which is sometimes thrown off in large quantities. The urine is often at first more copious than is natural, not high coloured, without sediment, and often foams like beer when voided. As the disease advances, it becomes more highly coloured, and as it declines deposits an abundant sediment. In severe cases the urine is retained long, and is suffered to accumulate in considerable quantities.

There is a total loss of the appetite and power of digestion, with vitiated taste, nausea, and vomiting either of vitiated mucus, or of this fluid, mixed with bile of an unhealthy colour and consistence. The bowels are either costive or relaxed, and the stools in whatever way produced are generally liquid, of a dark colour, and have an unnatural and excessively foetid odour. The following remarks of Dr Smith upon the diarrhoea attendant upon typhus, we give entirely in his own words, as he appears to attach to them considerable importance.

‘The latter stage of all severe cases of typhus is attended with diarrhoea; the stools are frequent, copious, liquid and extremely foetid. The bowels are often tympanitic, the flatus not passing off with the liquid stools.

‘The danger of the disease is in proportion to the violence of

the diarrhœa; when the patient has not more than four or five liquid stools in the twenty-four hours, it is not alarming, as it does not seem to weaken him much, but if they exceed that number, serious consequences may be apprehended.

‘I have never lost a patient, whose bowels continued constipated through the whole course of the disease, and have never known a fatal case of typhus, unattended by diarrhœa.’ p. 37.

The respiration corresponds very much to the state of the pulsé. When the latter are frequent and undulatory, the breathing is hurried and unequal, or accompanied by occasional long and full inspirations like sighing. In the advanced stage of severe cases there is a peculiar whistling sound produced by breathing through the nose, and when the patient is asleep or comatose, the mouth is kept open, and the respiration approaches to stertorous.

The state of the skin, as it respects the perspiration, is very irregular; in some cases, for several days at the commencement of the disease, there is no sensible discharge from the skin; in others there are partial and unequal sweats, and occasionally the patient will sweat regularly, some part of every day. In bad cases, a peculiarly profuse sweat appears, called the *washer-woman’s* sweat, extending over every part of the body and limbs, giving to the skin the appearance of having been sodden in water. It continues warm till a short time before death. Dr Smith remarks that he has never seen a case of recovery after this kind of sweating. At the decline of the fever, the perspiration becomes universal, particularly during sleep, is not profuse, and produces a cooling and pleasant effect. Boils are not uncommon in the advanced stage. If they are of a bright red colour, and proceed to suppuration, their appearance is favourable. Eruptions about the mouth are also considered as a favourable symptom. The skin has a peculiarly dirty appearance, and feels harsh and dry when free from sweat; in some instances, it communicates a very peculiar, pungent sensation; a feeling like that of scalding, readily distinguished, according to our author, from the sensation given in any other fever.

This is not the only circumstance peculiar to this disease, which he asserts to be distinguishable by the organs of sense merely. From the following passage, which we choose to quote in his own words, we learn that the sense of smell may become of no small importance in the diagnosis of diseases. We have been often told of the wonderful discriminations of the pulse of which some physicians have been capable, but we were not prepared to learn that our olfactory organs could be turned to so good an account.

‘There is a remarkable odour arising from a person affected by this disease, so peculiar that I feel assured that upon entering a room, blindfolded, where a person had been confined for any length of time, I should be able to distinguish it from all other febrile affections. This is an additional circumstance in favour of the existence of the specific cause assigned above; as several other diseases which arise from contagion are attended by an odour peculiar to each, which, when once fixed in the mind, enables a person to recognise their presence ever after. This is strongly evinced in small-pox, measles, malignant sore throat, &c.’ p. 40.

The function of absorption appears to be little affected in typhus, and consequently emaciation takes place rapidly, and this is to be looked upon as a favourable symptom. Sometimes one of the limbs instead of lessening, increases in size, indicating that the power of absorption in that limb is lost; this enlargement is sometimes permanent.

After convalescence has commenced, the patient gains flesh generally very fast, and this increase is greater proportionally than the increase of muscular strength. The hair falls off after a severe attack, and the cuticle peels from the palms of the hands and soles of the feet, and sometimes from the whole body; but this never takes place till the patient begins decidedly to recover.

Of critical days in typhous fever, Dr Smith thus remarks, and as it appears to us with very great justice.

‘As it respects critical days, much has been said and written from the earliest physicians to the present time; for my own part, I have never been able to determine that any exist, or if there are, they can be of no use, in a practical point of view, for two reasons; first, the disease attacks in such a gradual manner that we hardly know on what day to fix its commencement; and second, when it terminates favourably, it often happens that the patient remains a week or more in such a situation that the practitioner is unable to decide, whether he is mending or failing.’ pp. 42, 43.

With regard to the treatment of the disease, upon the supposition that his view of its specific nature and origin be correct, Dr Smith inquires whether it be proper to interfere by attempting to cut short the disease in its outset, or prevent it from running through its course. His remarks on this subject we quote at length.

‘If the pathology of Typhous Fever we have just laid down, be correct, if it arises from a specific cause and has a natural termination, it may be a question, how far we are to attempt a cure of it, or if we possess the power, whether we can with propriety cut it off in its commencement and by art prevent its running its course.

‘Physicians in this country are divided in opinion on this subject,
Vol. XIII.

some imagine they have often cured it immediately after its first attack, nipped it in the bud, as they say, while others of perhaps more experience will tell you they are not certain they have ever arrested this disease by medicine.

‘I confess the subject is a difficult one, and that it is next to impossible to demonstrate the truth of either the positive or negative side of the question, and as absolutely so to those who have already made up their opinions on the subject, as to that still larger class, who have yet to learn to doubt their own skill and mistrust the powers of medicine.

‘When a person is taken unwell, has a pain in the head, takes medicine, and the next day recovers, if the attending physician is disposed to consider it a case of typhous fever, we can bring no testimony to prove that he would not have had the disease, had he not taken the remedy.

‘In such cases we can only make the truth probable, and what appears so to one, may not to another.

‘In the first place, typhus in its commencement exhibits so many symptoms in common with other febrile affections, that it is not easy for any one, especially the unexperienced, to determine whether the disease is truly typhus or not; even those, who hold to the opinion that they often cure it suddenly, have confessed to me that they cannot distinguish it from other febrile affections upon its first attack, and never positively, till the disease has, in a considerable degree, developed itself.

‘This confession is alone sufficient to render the correctness of their previous opinion doubtful.

‘Again, these very physicians, or at least a portion of them, have acknowledged that when the disease is fully formed, that is, when the patient has the typhous fever, it cannot with any certainty be interrupted or cut off, as they express it.

‘Besides, we have to oppose to the opinions of those, who think they often cure this disease in its commencement, the belief of others of quite as much experience, who think they have never interrupted its course in a single instance.

‘Indeed, I am myself of this latter opinion, for during the whole course of my practice I have never been satisfied that I have cut short a single case of typhus, that I knew to be such; nor have I seen a solitary instance of its having terminated within fourteen days from its first attack.

‘Cases have occurred to me often where the distress and sufferings of a patient have been alleviated in less than half that time; but the morbid action has not ceased, nor the healthy one of the secreting surfaces been established, and a natural appetite restored, within the time above-mentioned.

‘It does not follow, because we have no expectation of arresting the disease, that we are to neglect doing any thing. In cases of the other contagious diseases, which are destined to run a certain

course, as the small-pox, we often prescribe early in the disease, and with evident good effect, but not with a view to stop or cut off the disorder; for whatever we do, we expect it will pass through all its regular stages, and our prescriptions are calculated only to render it milder and safer, and enable the patient to live through it.

‘With the same views, I prescribe for typhus, both at its commencement and through the course of the disease; for typhus has a natural termination like other diseases, which arise from specific causes.

‘On the other hand, it does not follow of course, that this disease in all cases requires remedies, or that a patient should necessarily take medicines because he has the disease. In other specific diseases, we proceed on the principle of withholding our remedies unless they are called for by particular circumstances, and thus many cases of measles, hooping-cough, and other contagious diseases go through their course to their natural termination without medicine.

‘In cases where the disease is going on regularly in its course, without any symptom denoting danger, and without any local distress, it is presumable that medicines, especially powerful ones, would be more likely to do harm than good. Although typhous fever is a more formidable disease than measles or hooping-cough, yet there are many mild cases, and in such cases, I apprehend that the use of powerful means, with a view of curing the disease, is liable to do great mischief.

‘I have seen many cases, where persons in the early stages of this disease were moping about, not very sick, but far from being well, who, upon taking a dose of tartrite of antimony with the intention of breaking up the disease, have been immediately confined to their beds.

‘In fact, I feel well convinced, that all powerful remedies or measures, adopted in the early stage of typhous fever are very liable to do harm, and that those patients, who are treated with them in the beginning, do not hold out so well in the latter stages of the disease.’* pp. 43—48.

Our author next proceeds to give his opinion with regard to the different modes of practice which are adopted by different physicians at the commencement, or during the course of the disease. Practitioners in New-England, he says, have been

* Happening in company with a physician with whom I was slightly acquainted, he observed that he had adopted a new method of treating Typhus, which I was aware had been prevalent in the vicinity where he lived, and stated that it had proved very successful. Upon my inquiring into his peculiar mode of treatment, he informed me that it consisted in giving his patient milk and water, and nothing else, through the whole course of the disease, and affirmed that he had treated quite a number of patients, and had not lost a single one since he had adopted this mode of treatment.

I take this to be a confirmation of my opinion, that powerful remedies are not properly used in this disease, unless called for by particular circumstances, and these circumstances are more rare than is generally supposed.

completely divided in their opinions of the nature and treatment of typhus. There are two sects, one of which has advocated the employment of depleting measures, particularly of blood-letting, to a greater or less extent, from the apprehension that it is a disease of increased action; and the other, seeing in it only the signs of debility and exhaustion, has had recourse to the most powerful and acrid stimulants, such as wine, brandy, alcohol, cayenne pepper, arsenic, &c. The latter class, Dr Smith seems to consider as having gone the greatest lengths in following up their opinions in practice; he has known them to boast of having made their patients swallow three pints of strong brandy, accompanied with large doses of laudanum and cantharides; and he has seen a written prescription containing opium, wine, alcohol, cantharides and arsenic, and directing them all to be taken several times in the course of twenty four hours. Notwithstanding the opposite practice of these two sects, they both boast of almost universal success, and are scarcely willing to allow the occurrence of a fatal case; 'yet, notwithstanding these two highly improved modes of treatment, it is a notorious fact, that typhous fever often proves fatal.' In his opinion there is not much difference in the degree of success attending these two methods, and he inclines to believe that they both produce about an equal degree of mischief.

He would not, however, exclude bleeding from all cases of typhus. Where there is severe pain, accompanied by a sense of fulness in the head, or distress in the chest, with pain on inspiration, the loss of a quantity of blood, from twelve to sixteen ounces, will mitigate these symptoms and make the patient go more comfortably through the disease. But in general the loss of blood makes no essential difference in the course taken by typhous fever; the pulse are not made slower, nor the heat less, but sometimes the pulse become more frequent and the heat greater; if the pulse are very frequent before bleeding, it is seldom attended with advantage.

The occurrence of hemorrhage in the height of typhus, has been sometimes used as an argument for the adoption of blood-letting in the commencement, with the expectation that this occurrence might be thereby prevented. Dr Smith has seen no evidence in favour of this opinion, and remarks that of fifty or sixty patients whom he attended during one season, with Dr Perkins, now of New York, only one was bled, and that one had afterwards a pretty profuse hemorrhage from the bowels, whilst all the others escaped it.

In the use of emetics and cathartics, Dr Smith would have us as cautious as with regard to bloodletting, and objects to their

indiscriminate administration in all cases. In cases of simple, mild typhus, where none of the symptoms are violent, the disease should be left to itself, and nothing administered but simple diluent drinks and a small quantity of farinaceous nourishment, avoiding at the same time, with great care, all causes of irritation. An emetic is indicated at the commencement of the disorder, by nausea, and oppression of the stomach. There are strong objections to the use of the tartarized antimony, which is said sometimes to produce very bad effects, and Dr S. recommends in preference, ipecacuaha, eupatorium, and sulphate of zinc. These may be given in the early part of the disease, and may be repeated at any time in its later stages that symptoms demand an emetic, with safety and advantage.

Powerful cathartics are represented as injurious. The costiveness in typhus does not consist so much in the infrequency, as the kind of the discharges. Except at the commencement of a case, the stools are not dry and hard, as in many other complaints, but liquid, and possessing a peculiar colour and odour. The difficulty to be obviated, then, is the retention of the proper fecal matter, which remains behind, whilst this liquid passes off; and this is better done by laxatives than by purges, and the mildest that will sufficiently answer this purpose are the best. 'Epsom salts with senna, rhubarb alone, or with a very small quantity of calomel or ipecacuanha, given in small and repeated doses, are amongst the best articles of this kind.'

Dr Smith has never known a patient die of typhous fever, whose bowels were slow and required laxatives during the course of the disease. Patients, when the disease is fatal, always die with a diarrhoea, and this is liable to be produced, on the one hand, by strong drastic cathartics; and, on the other, from permitting the bowels to remain shut up so long as to produce an accumulation of acrid and offensive contents.

The greater number of the other remedies which have been recommended at various times in the treatment of typhus, are dispatched in a pretty summary way. We shall barely give a sketch of the opinions of our author with regard to each of them.

Blisters are sometimes admissible where there are local pains, and seldom do hurt, but 'they may in most cases be dispensed with.' Sweating, particularly when produced by external heat or the administration of stimulating remedies, is decidedly injurious; but such diaphoretics as ipecacuanha, contrayerva, Virginian and Seneca snake-root 'may be given with impunity, though they seldom or ever produce any sensible perspiration till the disease has formed a crisis, and then the patient will perspire freely without their assistance.'

Opium is an article whose effects are seldom negative. It either will do hurt or good. We quote what is said of it.

‘When the patient is hot and suffers from pain in the head, and throbbing of the temporal arteries accompanied with confusion of mind, opium is generally hurtful and seems to augment rather than diminish these troublesome symptoms. But after their violence is in some degree abated, and the heat has become moderate, it may be used, and when combined with ipecacuan, sometimes gives rest and quietness during the night; although in many cases it will have the opposite effect; and serve to make the patient more watchful and restless. Under such circumstances, if persisted in, it does harm.

‘When diarrhœa occurs, opium combined with ipecacuan and camphor, is generally useful; and if it does not succeed in checking the discharge, does not appear to produce an injurious effect.

‘The use of this drug has also been advised in cases of great prostration of strength, that is, in cases where the morbid action is kept up in kind but has abated in force, owing to the exhaustion of the sensibility and irritability of the capillaries. In cases of this description it has been prescribed as a stimulus to support the patient, and in such instances it must be acknowledged, that it is sometimes used with apparent advantage. But under the same circumstances, it does not always agree with the patient; and sometimes instead of quieting and giving him ease, produces a contrary effect, rendering him restless and watchful, and not unfrequently brings on or increases delirium, especially if given in large doses.

‘Upon the whole, opium may be used to advantage under certain circumstances in typhous fever, but cannot be considered as a specific in any stage, and is at best but a doubtful remedy.” pp. 64, 65.

The use of mercury to the point of salivation, as a specific, is deprecated, and many evils which have resulted from its use are related. Instances are mentioned in which the disease has run on forty or fifty days in spite of ptyalism, and has after all terminated fatally. The mercury has been pushed so far as to produce a gangrenous state of the gums, and a necrosis of the lower jaw. It is apt also to leave the mouth and stomach in a very bad state, and to keep the patient for a long time in a feeble and debilitated condition. Nevertheless it may be sometimes advantageously used in small doses, combined with other medicines, as a laxative; and with opium to check a colliquative diarrhœa.

Cinchona is injurious where there is much heat, a dry and parched mouth, and pain in the head; but where there is chilliness or hemorrhage, may be administered with benefit. Bitter infusions may be of service, by assisting to preserve the tone of the stomach through the whole course of the disease.

Where there is acidity, the alkalies will relieve the irritation and burning sensation in the stomach, and with acids in a state of effervescence they form a very grateful drink, but have no other good effect.

The vegetable acids diluted may be used as a drink, but occasionally they produce a sensation of burning, and an indescribable feeling of distress. The mineral acids have been highly extolled as remedies in typhus. Dr Smith has used them, particularly the muriatic, but does not place much dependence upon them.

Of the neutral salts, as refrigerants, he speaks but slightly. The only refrigerants upon which he seems inclined to place any reliance are cold air and cold water. Cold air should be permitted to have access to the patient in every possible way, when the season of the year will admit. Cold water, as a drink, where it is desired, should be administered *ad libitum*; a patient should never be restrained in its use. But the most effectual method of producing the cooling of the body, is by the external application of cold water. The mode of doing this recommended by Dr Smith is 'to turn down the bedclothes, and to dash from a pint to a gallon of cold water on the patient's head, face and body, so as to wet both the bed and body linen thoroughly.' This is to be repeated as often as the clothes become dry. The principal effect being produced by evaporation, the temperature of the water, if below blood heat, is not of much importance, except where there is stupor or coma. In such a case, it being desirable to produce a shock or sudden impression upon the system, a low temperature would be more effectual.

No additions should be made to water, of spirit or vinegar, as is commonly done. They add nothing to the efficacy of the application, but leave impurities upon the skin, and produce an unpleasant odour about the patient. Three cases are related, in which the good effects of the affusion of cold water were strikingly exemplified.

The following remarks relating to the food, drink, and general management of the patient, conclude the book.

'With regard to diet, it is not necessary to say much; if patients were left to select for themselves, without the interference of nurses and friends, who are always afraid they will starve, they would generally decide right, since they would not often take any thing, that could be called food. The farinaceous and mucilaginous substances are the only articles of nutriment admissible, with the exception, perhaps, of milk largely diluted with water, or whey prepared from it.

'All solid food is injurious, and all sorts of broths prepared from animal substances should be prohibited.

‘After the fever has formed a crisis, and the secretions of the mouth have become healthy, the appetite generally returns, and if we then allow the patient to choose for himself what he will eat, and take care that the quantity taken at first is very small, he will not often be injured by it. But it is not safe to let patients judge as to the quantity. Their minds are weak, and their appetites strong, and they would, if allowed, often hurt themselves by too much indulgence.

‘With respect to liquids, I have generally let the patient choose for himself, provided he does not select any of the stimulants, such as ardent spirits or strong beer, which, however, is almost never the case. Cold water, or water acidulated with one of the vegetable acids, small beer or brisk cider are the drinks which are usually preferred. The infusion of the pleasant aromatic herbs may be always allowed.

‘Beside giving directions for the use of medicines, it is important that we should direct, what may be called the general management of the patient.

‘When an individual is first taken sick with typhous fever, we should expect a disease of considerable length, and make our arrangements accordingly. If the thing is practicable, he should be kept in a spacious room, the larger the better. His bed should be of straw or husks, especially if it is in the warm season; and it should not be placed in the corner, but brought out into the room. We should contrive to have a current of air pass over the bed by means of doors and windows. It is well to have a chimney and fire-place in the room, and in the night when the air is very still, (though the weather should be warm,) a small fire kindled with a little dry wood, so as to cause a current of air up chimney, and by that means often change the atmosphere of the room, will be found of service. In the warm season of the year, the windows should be kept open night and day. All the furniture should be removed, except such articles as are required for the patient’s use. The windows should be darkened, or something opposed to the light, in such a way as to still admit the air. The room should be kept as quiet as possible, since noise is injurious, and no more persons should be admitted than are necessary to take care of the patient, which will, if he is very sick, require the labour of more than one.

The room should not be carpeted, and the floor should be often washed with pure water, or soap and water, and in the hot season, it, as well as the walls, may be kept wet with water during the heat of the day.

‘Cleanliness is absolutely essential to the patient’s comfort, and no dirty dishes or useless medicines or food should be suffered to remain in the room. All excrementitious matters should be removed immediately. In the warm season of the year, the bed and body linen should be changed every day, and in the cold, every other day at farthest.

‘The patient’s body and limbs should be cleansed every day with a piece of sponge and warm water or soap and water. If a male, he should be shaved every day or every alternate day, and if a female with long thick hair, it should be cut off or thinned, so as to leave but little of it the full length.’ pp. 81—85.

We do not doubt that there are many practitioners who will sneer at the mode of treatment recommended in this work, as trivial and inefficient, and who would not be satisfied in their own practice with measures so inactive and inert as those which Dr Smith advises us to pursue. There are many persons, who, in the management of any severe case, are possessed with the idea that there is a great deal to be done; that they must keep doing something, let the state of things be what it may. They have no patience with Nature; they cannot hold off their hands from the sick man; they have no self-denial in the administration of medicines, but vex the unfortunate wretch with drug upon drug, potion upon potion; and upon the appearance of any new symptom, have always something new wherewithal to combat it.

We conceive it to be a prominent fault among medical men, or at least among medical writers, of the present day, that too much stress is laid upon what is termed bold and decisive practice. We scarcely read an English Journal, in which we do not meet with some congratulations upon the superiority of the energetic and vigorous measures of the English, over the inert and trifling practice of the French physicians; and the same spirit runs through almost all medical writings. We are not at all disposed to doubt the efficacy and importance of the medical art. We believe that great service is rendered during sickness by judicious measures; that the sufferings of disease are diminished, its duration shortened, and death sometimes prevented; but we suspect few reflecting and observing physicians will deny, that, taking one patient with another, a vast deal more is done, than is of real use, by the average of physicians.

Some practitioners measure the efficiency of their practice by the quantity of blood which they abstract, the number of blisters which they apply, and the grains and scruples of medicine which they exhibit. But truly efficient and decided practice consists in pursuing those measures which are judged necessary, be they mild or powerful, with constancy and perseverance; in keeping the eye steadily fixed upon the great objects of the case, without regard to the occasional deviations of the symptoms, and refraining from the employment of temporary expedients, which, though productive of present relief, interfere ultimately with the favourable progress of the disease; and in regarding the good of the patient and the happy issue of his case, rather than the impres-

sion which may be made upon the bystanders. Efficiency may be as well displayed in doing little things, as in doing great ones. The object is to remove disease; whatever measure will have this effect, though it should consist in giving nothing but cold water, if efficiently, consistently, and decidedly pursued, constitutes efficient, vigorous and decided practice. A physician may manifest as much efficiency, as much energy, in abstaining from measures, as in adopting them; nay, much more! With regard to many articles used in medicine, it may indeed be said of them, that at least they are harmless; that if they do no good, they can certainly do no hurt. But these unfortunately are not the articles of which *efficient* practitioners are fond. It cannot be predicated of opium, capsicum, brandy, bleeding, &c. &c. that they are at the worst harmless. No man can drink three pints of brandy, or take, several times a-day, a prescription containing arsenic, opium, cantharides, &c. &c. without some tolerably positive effects; and these effects, if not decidedly good, must be decidedly bad. Physicians should be pretty well satisfied that they have freed themselves from the prejudices of theory, and have had their views confirmed by experience, before they permit themselves to boast of such exploits as these.

We have been thus full in our notice of Dr Smith, because we are so rarely favoured in this country with works upon our own diseases from practitioners of his age and experience. The rank and reputation which he has maintained in the profession over a large portion of New-England, give him a claim to a candid and respectful hearing, and no one, we think, will peruse his work without satisfaction. It appears to us to contain the general impressions with regard to typhous fever, which have been left upon the mind of a man of sound natural sense, by a long course of observation and experience. It certainly does not appear to be the result of very accurate or minute research, nor of connected and consistent thinking. There are many opinions in it to which we cannot subscribe, and some facts which we should be inclined to view in a different light from the author.

ARTICLE XIV.

Transactions of the Associated Apothecaries and Surgeon-Apothecaries of England and Wales. Vol. 1. 8vo. London. 1823.

FEW of our readers are ignorant of the history of the contest between the physicians and surgeons and the manner in

which the latter have fought their way, after a struggle of some centuries to a standing equal, and in the professed opinion of some modern surgeons superior to that of their ancient overlords. Another 'monstrous cantle' has been cut from the inheritance of the legitimate brethren of the faculty in Great-Britain by the apothecaries. The origin of these last as practitioners of medicine, was very natural. The buyer of a drug or composition enquired of the seller its nature, use, and application to particular circumstances. The apothecary found it expedient to be prepared with answers to these queries, which became in the course of time more numerous and important, till the apothecary's advice and assistance, which could be obtained without the fee of the physician, became in general request. With the demand, the supply of course increased. The dispenser of drugs became a man of education, his apprentices were gradually taught not only to compound medicines, but to bleed, extract teeth, afford medical advice and assist at the delivery of women; in short the apothecary became what is now called in Great Britain the general practitioner. It must not be supposed that the physicians looked upon this new invasion of their privileges with indifference. They resisted it with the utmost indignation, but their resistance, as might have been expected, was in vain. The convenience and necessities of the public supported the claims of the general practitioner to which he was found so well adapted that by far the greater part of the business of the profession in the United Kingdoms, is now performed by gentlemen of this description. But as nothing stands still in this world, the general practitioners, who, with all their success, were not yet a legal body, began in 1812 to take measures for fortifying their new acquisitions. They proposed to procure an act of Parliament, which should recognise their existence as authorised medical and surgical practitioners, provide for their proper education and competency to the performance of their various duties, establish their right to an adequate remuneration for their services,* and last, though not least, to check the aspiring spirit of the Chemists and Druggists, a new swarm of invaders, who like the ancient barbarous hordes of the North, were beginning to press upon the footsteps, and threaten the

* They had hitherto been remunerated only by the profits on medicines and such gratuitous additions to the bill of these, as it pleased the patient, or his friends to make. The amount of these gratuities, to be sure, like the *remembrances* of coachmen, guards, servants, &c. of public houses, had become regular by custom, but they could not be recovered if refused. Moreover the practice was exceedingly bad, inasmuch as it made it the interest of the practitioner to crowd the table, if not the stomach of his patient, with hosts of bulky draughts and compounds.

hard won and fertile domains of their predecessors, the apothecaries. But the time, as the committee intimate in their Introductory essay was not yet ripe for this attempt. The old belligerents the physicians and surgeons made common cause against their rivals. And the committee found it most prudent to retire from the field and withdraw the bill before it came to a third reading. It was afterwards brought forward again with amendments calculated to render it less obnoxious to the other branches of the profession; but with as little success as before; as a *pis-aller* they were at last compelled to accept of an act procured by a compromise with the physicians and surgeons, the nature of which will be best explained in the words of the Introductory essay.

‘That it was very unsatisfactory may be seen by comparing the apothecaries Act, as it is, with the Bill as first projected by the association. Shorn indeed is the latter of its fair proportions! The practice of medicine is doubtless now placed under certain, but very inadequate restrictions; but whilst that of surgery, and of midwifery, is still open to every unprincipled pretender, the *drug-gists* are neither prevented from making up physicians prescriptions, nor even from *practising medicine*; no provision is made for securing a supply of qualified assistance; and lastly, while the public are thus denied so many and such great advantages, not only is the general practitioner not relieved from his burdens, but he is subjected to new and vexatious restrictions.’ p. viii.

One of these restrictions does indeed seem to us vexatious and worse than vexatious, a clause of the act makes it ‘penal for any apothecary to refuse to compound any prescription of a physician lawfully licensed to practise physic,’ ‘involving’ as the committee well observe, ‘the unjust principle of obliging the apothecary to sell his medicines, whether he will or not, and to do so, at all times, whether he be paid or not.’ After various unsuccessful attempts to procure better terms for themselves, the association resolved to wait for happier times; to be prepared for these by continued union and systematic organization, and to keep alive the spirit of reformation and accelerate the progress of the expected auspicious period, by publishing periodical volumes of *Transactions*; which should tend at once to improve the members of their own body, and to inform the public of their wants and merits. Such is a concise history of the origin of the work before us; abridged from the Introductory essay, which we shall conclude with the quotation of a simple sentence which shows the enormous expense of legislation in Great Britain. ‘At this period’ (September 1813,) say the committee ‘1956*l.* 14*s.* 10*d.* had been subscribed for carrying the Bill through Parliament.’

The remainder of the essay is taken up with an 'exposition of the committee's views of the true present state of medical practice in this country ; of its defects and causes ; of the best mode of obviating these defects ; and lastly of substituting for the existing limited views of medical science, such a more comprehensive system of study, as may at once tend to raise medicine to the rank it ought to hold and will at some period, hold among the exact sciences ; and force from society that consideration, for its professors, which will certainly afford the relief they claim.'

They suppose the faults of English practitioners to be a neglect of physiology and pathology, too great an attachment to a certain routine of remedial practice, that they think too much of the name and too little of the nature of a disease, and attend more to its symptoms than its causes. They recommend greater attention to physiological and pathological investigations and hold up those of the modern French school as models for imitation. We cannot agree with them however when they recommend, among other sources of improvement, experiments on living animals ; we think them barbarous, disgusting and not often valuable. We are persuaded that the discoveries made in this way, and which could have been made in this way only, are neither so numerous and important, as has sometimes been imagined, and had they been still more valuable, than they really are, would have been dearly bought by the dying agonies of the heratombs of animals, which have been sacrificed on the altars of French physiology, and the effect which such experiments must have upon the finer feelings of the operator. Knowledge is worth much, but mercy is also worth something, and we think much more highly of the zeal than either the morality or humanity of those who recommend 'a repetition, for verification of the experiments of the French physiologists, Magendie, &c. &c. p. cxii.

A list of the members of the association is added ; the number may amount according to a hasty calculation, to about fifteen hundred ; a phalanx, one would imagine, likely to be pretty formidable to the privileged orders of the faculty.

We are next to notice the several articles which compose the remainder of the volume.

An Essay on the education and duties of the General Practitioner in Medicine and Surgery. By THOMAS ALCOCK Esq.

This is too long and contains too many details to admit of an abstract that would do it justice. It is in general judicious, and as we are nearly all *general practitioners* in this coun-

try, we recommend its perusal to our readers. And if they should think the standard of duty is placed by the writer too high, they should remember that 'he who mints at a gown of gold, will be sure to catch a sleeve of it.' He laments in p. 59 the deficiency of subjects in London. This deficiency we are sorry to say exists in places nearer home. It is a remarkable anomaly in the jurisprudence both of this country and Great Britain, that medical men should be at once liable to severe penalties for taking the only means of acquiring a knowledge of their profession and to heavy damages for being ignorant of it. We have copied in this particular the wisdom of ancient Greece, which encouraged stealing and punished the thief who was unlucky enough to be discovered.

The following direction to students is worth the attention even of some practitioners.

'I would caution him against running after extraordinary cases and operations. The every day duties of the surgeon are of more consequence to him; for he is more likely, in the early period of his practice at least, to be called on to apply bandages; to bleed, to dress wounds or ulcers; to reduce simple or compound fractures &c. than to perform lithotomy, make new noses, or tie the aorta.'

We may add that it is as well to understand the proper management of the common remedies, opium, calomel, antimony &c. before the student or young practitioner tries his hand at Iodine, Prussic acid, or Swaim's panacea.

Those who are fond of adorning their offices with tickets, framed diplomas and other contrivances for giving them a knowing air, will think but meanly of the opinion of Mr Abernethy, expressed to a young surgeon, who applied to him for a certificate. 'My good friend, take my word for it, the world is become too enlightened to be gulled with certificates now-a-days. You carry with you that, which is more valuable than any certificate I can give you, a knowledge of your profession.'

A printed form is given in this essay of those particulars which ought to be made the subject of enquiry in every case of any importance, it appears to us a useful contrivance for the student and young practitioner, as it will tend to give the habit of systematic investigation in place of that vague and confused method, which is too apt to be prevalent among medical men of all classes. It is particularly useful in investigating the diseases of children. This kind of system is intimately connected with that clearness of judgment and directness and simplicity of practice, which has distinguished the most celebrated physicians of all ages.

Case of chronic Inflammation and accretion of the Pericardium to the Heart. By JAMES JOHNSON M. D.

The remarkable points in this case are the vicarious rheumatic pains in the joints, which relieved the pulmonic symptoms almost entirely. On one occasion an attempt to remove the former by colchicum was successful, but the rapid convalescence was interrupted by apoplexy and hemiplegia, which proved fatal in a few days. Dissection showed, besides the lesion mentioned in the title, a rent in the cerebrum containing a clot of blood; this was on the *same side* as the hemiplegia. Dr Johnson remarks in conclusion. 'What could have produced the last and fatal determination to the brain I know not. Could the removal of the rheumatic inflammation from the joints by the colchicum have any share in its production?' We think this not improbable. Every observing practitioner must have noticed the vicarious nature of the greater part of those chronic painful affections which are comprehended in common language under the broad term of rheumatism, and the frequency with which their cessation is followed by grave functional disorders or the development of organic disease the existence of which was before perhaps unsuspected. And this is particularly the case with organic disease of the heart, rheumatic pains in the arms side or legs being frequently the first symptoms of these maladies; a striking instance of this occurred to the writer of this article within the last year. A gentleman who for five or six years, had been afflicted with *rheumatism*, for which he had tried a great variety of remedies, about six months before his death observed that he had at last got completely cured of it, so that not a vestige remained, but had acquired a new disease, the phthisic. On examination, an affection of the heart was very obvious, the symptoms of which continued to increase in severity till the termination of his life. Dissection showed a large aneurism of the aorta with ossification, and an enlargement of the left ventricle. The history of the Portland powder and several similar remedies for gout is well known, the late eminent Dr Gregory, used to observe that sudden death had been within his experience a very frequent consequence of remedies of this sort. Cullen thought no man ever lived three years after having been cured of gout by the Portland powder. This effect of these remedies has been denied it is true by many, but whether it be really the case or not, it is certain that gouty persons are liable to sudden death; either on the sudden cessation of a paroxysm, or about the period of its expected return, and so much so, that the rate of life insurance in Great Britain is exceedingly high upon a gouty subject. These considerations

ought to make us cautious how we endeavour to abate an evil of long standing by violent remedies. Perhaps the old prescription 'to live upon sixpence a day and work for that sixpence' is the only perfectly safe prescription for many chronic maladies of the kind above mentioned.

Case of Spontaneous rupture of the Uterus in the seventh month of pregnancy. By CHARLES SHILLITO, Esq.

The time when the rupture took place was not distinguished by any remarkable symptoms, and was not suspected for some time after it took place. The child escaped into the abdomen but was extracted by the hand ten days after. The woman lived and seemed on the recovery for some days; but sunk again and died twelve days after delivery and twenty-five from the supposed period of the rupture. The writer thinks this case important in its relation to the question of the propriety of immediate delivery in such cases, which Denman, Burns and Merriman object to, and Dewees of Philadelphia contends for. He thinks this instance shows the possibility of recovery notwithstanding the escape of the child into the abdomen; since the woman did not die from the irritation of this large foreign body among the intestines, but from the sloughing and abscesses formed about the vagina and cervix uteri; but this sloughing was evidently caused by the foetus and did in fact allow it to escape into the vagina, so as to be extracted, and it would seem that an earlier extraction provided it were possible, as the writer seems inclined to admit, might have saved the parts from this necessity of ulceration and suppuration. Whatever inferences may be drawn from this case, the assertion of Dr Dewees still remains uncontroverted 'that there never has been a recovery when the foetus was allowed to remain.'

Cases in which certain kinds of food commonly thought to be indigestible have seemed to act as violent narcotic poisons.—Observations on a series of cases of Inflammatory Diarrhea.—A case of cut-throat successfully treated. By CHARLES THOMAS HADEN, Esq.

We notice these three together as they are all from the pen of the same author, whom we take to be a young gentleman. The first deserves a place beside the monitory work of Mr Accum entitled 'Death in the pot,' beyond which it advances a step by showing even that articles of food which by some rare chance have escaped the almost universal process of adulteration which prevails in the United Kingdoms, and however appetizing and wholesome they may appear, are nevertheless to some stomachs the most destructive poisons. Wo, wo and a three-

fold wo unto you that have nerves, whose misfortune it shall be to peruse these dark chapters in the history of your ingesta. You have been told that your food is adulterated, and that medicine has lost its remedial powers by the same process, learn now to your utter despair, that the pulp of an orange, roasted pork, pickled pork and greens, beef's heart, and most horrible, even the strong hold of the dyspeptic, yea even mutton chops, are but the harbingers of disease and death; read, then 'despair and die.' Instances of insensibility, convulsions and even death are of very frequent occurrence from indigestion in persons of weak stomachs and great irritability, more particularly in children, and some cases of this kind Mr Haden describes very well, he is mistaken only when he supposes himself to have met in such instances, with anything uncommon, but doubtless his intentions are good, and his youth is a fault, that will mend. The observations in the second article are in the main judicious; but the case of cut-throat is the authors master-piece; his object in the history is to show that during the progress of the case, frequent occasions occurred for the exercise of judgment, and that these occasions were always met with wisdom and firmness; in short that the practitioner always did the thing that was right, and in exactly the right time and place. We have not room to analyse these papers more particularly. If they had been the work of any person likely to see these pages, we might have had some conscience about damping his youthful zeal by ridicule, but we may be allowed to smile now and then at some of the contents of the 'bales and hoghead' from the other side of the Atlantic.

Case of injury to the upper Jaw. By JOHN POWELL, Esq.

The two front incisors were in this case, in consequence of a fall from a horse, driven up through the jaw into the right nostril, where they remained, causing great foetor of the breath and other uncomfortable results for nearly eleven years, when they were extracted by the writer of this paper.

On the treatment of painful affections of the Nerves, arising from local injury. By GEORGE R. RODD, Esq.

The writer relates several cases of this kind in which the extract of belladonna mixed with water was applied externally, with great benefit. Probably the extract of stramonium, or the leaves of this latter plant applied in the form of fomentation would have similar effects, and if so would be preferable, as the plants is so common amongst us. The writer of this article has been informed that this cataplasm of the leaves of stramonium is a very excellent application for relieving the pain,

in cases of severe sprains, but cannot speak of it from experience.

Case of aneurism of the aorta. By JOHN HUNTER, Esq.

This case is in confirmation of the remarks we made above on the subject of rheumatic pains which were the first and continued to be the most obvious symptoms. The existence of the aneurism though it was suspected towards the close, could not be certainly ascertained from the great obscurity of the case. It was situated on the back part of the aorta just before it gives off the arteria innominata. The patient apparently died of hæmoptysis, but the sac was not burst before death.

Abstract of communications from the Country, on medical and surgical attendance on the parochial poor. By ROBERT MASTERS KERRISON, M.D.

A series of Cases of bad Practice in Midwifery and Surgery, illustrative of the evils, which result from uneducated Persons being allowed to practise those branches of the Profession. By DAVID EVANS, Esq.

These papers are of course too much of a local nature to be interesting in this country, some of the instances of mal-practice in midwifery are very singular. In one the attendant amputated the child's arm and in another the leg, which presented, for what purpose, except to pass away the time, we are at a loss to imagine.

Case of poisoning by opium, also a case of successful operation for a tumor in the vagina. By DAVID EVANS, Esq.

The stomach was evacuated in the first case in the following manner, a flexible tube, strengthened by the introduction of a strong iron wire was passed down and about three pints of warm water were injected through it into the stomach. This was again forced out, strongly impregnated with the odour of opium, by gentle pressure on the stomach. This alternate filling and emptying was continued about an hour, when the odour of opium gradually ceased, an emetic was then injected through the tube, and an enema administered, both of which operated well and in a few hours the patient could articulate and had recovered the power of swallowing. She died 6 days after, apparently from inflammation of the lungs, which Mr Evans attributes to exposure and wetting the chest, while he was operating, an accident owing in a great measure to the opposition of the bystanders to this [to them] novel mode of proceeding. This method of emptying the stomach in cases, where the power of swallowing is lost, has been employed in several instances as

appears in the late English Journals, and would seem to be quite easily performed. An emetic at least may on such occasions be injected with great ease and much time saved, which is now often wasted in attempts to get it down by small portions, at the risk of suffocating the patient, and to the great distress of the bystanders.

The tumor in the vagina occurred in a woman in the 4th or 5th month of pregnancy, it grew from the upper and back part and felt like a bony or cartilaginous substance, it was in a high state of inflammation and extremely tender to the touch. It was at first suspected to be the uterus retroverted and some endeavours were made to replace it which gave the patient much pain. More careful examination shewed it to be a tumor, as above described. As the peritonæum began to show some signs of partaking in the inflammation, and the patient's state became alarming, it was decided to open it, which was done with a trocar, and 'about 3ii. of thick jelly like fluid tinged with blood, drawn off,' with considerable relief. After twenty-four hours the alarming symptoms returned, these were removed by a free opening into the tumor, which was effected by a double edged scalpel. The same jelly-like substance was evacuated and after some days, several tumours of different sizes came away from the inside of the sac. They resembled spermaceti, except that they were not so white, the walls of the tumor were cartilaginous and did not collapse after the evacuation of its contents. The unpleasant symptoms however were removed, and the woman was delivered at the full time of a dead child. At this time no remains of the tumour were perceived.

On venous congestion. By THOMAS SANDWICH.

Diseases arising from venous congestion in the more important organs, existing in a degree, which prevents any considerable arterial action, are among the most fatal to which we are subject, and the most difficult to treat with becoming decision. The opinion of their real nature and the proper method of treatment, which is now held by Armstrong and other British authors, as well as many in our own country, has been slowly gaining ground on both sides of the Atlantic. That the progress of the knowledge of their proper treatment should be thus gradual is not to be wondered at, when we consider that this is at first sight of the most paradoxical kind; the same case frequently requires evacuations, and cordials at the same time to enable the patient to support them, bleeding when he seems scarcely to have strength enough to live an hour, and diapho-

retic medicines when his skin is bedewed with clammy perspiration. The use of the lancet in cases of this sort, which is often necessary, is abhorrent to all the ideas of one unaccustomed to such cases and such treatment: in short these cases when severe are among the last which a physician learns to treat well. He may be able to write, or discourse scholarly and wisely concerning them, and show in the most satisfactory manner the proper method of management in every emergency, but he will too often find his judgment confused, and his hand paralyzed by the insidious or appalling circumstances of the real case, and too often let the moment for action slip by and find too late that it is gone for ever; and even if he should begin correctly, he may lose by a process of irresolution at a later period, all that he has gained by the first advances. He who has hesitated and been driven about by the wind of varying opinions during the progress of a fatal congestive disease, and who of us has not found himself at some time in this situation, will be sensible of the truth of these remarks; we will only add to them that cases of this sort, while they are the best tests of real skill, experience and faithful observation, afford at the same time, and often fortunately for the credit of the profession, an excellent apology for ill success. Malignity, like clarity, covers a multitude of errors. The writer of the paper before us seems to have a just notion of, and makes many judicious remarks on these diseases. He professes however to confine these remarks to such instances of venous congestion as are found to occur without idiopathic fever as apoplexy, epilepsy, delirium tremens, angina pectoris. Congestion of the brain, as he remarks, is generally accompanied with that of the liver, as is shown by the melæna, which usually attends or follows it. He describes a case in which a disease analogous to angina pectoris was produced by profuse menorrhagia. By the advice of another physician he bled this patient, though he acknowledges himself to have been rather startled with the proposal. After the fifth bleeding the uterine discharge was lessened and the patient convalescent. He adds that her recovery has been most perfect. He observes that 'this condition (congestion) of the lungs gives rise to hemoptysis, which if properly treated; is always curable.' He 'considers this form of the disease as most common in young females labouring under suspended menstruation, they are pale, bloated, black under the eyes have a feeble pulse, and no pyrexial symptoms.' In cases of this kind we consider the purgative practice of Dr Hamilton the most proper. Mr Sandwith details an interesting case of purpura hemorrhagica, which was removed by bleeding, accompanied by small doses of the blue

pill and Epsom salts. He remarks in general with respect to these diseases, that in the climate of England, 'a succession of smaller bleedings is safer, than one full evacuation, by the lancet.'

Narrative of an unusual case of Utero-gestation. By WILLIAM NEWNHAM, ESQ.

Case of blighted Ovum with twin conception. By JOSEPH HAYES, ESQ.

An unusual case of twin conception and labour, also a case of blighted ovum. By JOHN POWELL, ESQ.

These cases are somewhat similar in the leading points. The authors suppose them to be opposed to the doctrine of superfœtation, in which particular we imagine they agree with most other facts in relation to the subject of human conception.

In the first case the patient was delivered of a still-born fœtus, seven months, or a little more according to her calculation, from the time of conception. The appearance of the fœtus corresponded with this decision, she recovered easily and after fifty nine days was safely delivered of a healthy boy.

In Mr Hayes case, the patient had symptoms of abortion about four months after conception, from which however, she recovered and at the expiration of the usual period was delivered of a healthy male child. Within an hour after the delivery of the placenta, another fœtus was expelled apparently of four months growth, flattened as if by pressure and very putrid. The placenta belonging to it reduced to a mere pulpy mass.

In Mr Powell's case no remarkable circumstance appears to have occurred during pregnancy, delivery took place at the usual time, but was more laborious than usual. The presence of the second fœtus was not suspected, but was found on examination, which was made for the purpose of ascertaining whether any portion of membrane was left behind. It was perfectly formed and, like the former; appeared to be of about four months, it was squeezed quite flat, but had no marks of putridity about it. Its placenta was about 'the size and thickness of the palm of the hand,' but 'had not the ordinary appearance of the placenta,' being 'converted into a firm, fleshy, and somewhat tuberculated substance.'

This last case it will be observed differs from the former in one important particular, namely that the smaller fœtus was not in a state of putridity. In all it is evident, if we may use such a mode of expression, that nature exercised a power of selection, in other words, that the stronger fœtus acquired its growth at

the expense of the weaker. The singular state of the placenta in the last case is remarkable, taken in connection with the vitality of the smaller foetus, for that it had a sort of vitality must be admitted. A similar structure was observed by Mr Powell in a placenta which was retained in the uterus eleven months. The foetus in this last case was not seen, being supposed to have escaped unobserved with some coagula which came away some days before labour. Of the reality of this last placenta, Mr Powell is perfectly certain and we presume his evidence is sufficient on this point. Though cases of this sort are rather curious than useful in a practical point of view, there is one inference to be drawn from them, which is well worth notice, that is, the propriety of ascertaining that the uterus is entirely evacuated in cases of parturition, before the patient is left, since a foetus of the size abovementioned might without such scrutiny be occasionally left behind, an occurrence too unpleasant to be hazarded.

Cases illustrative of the efficacy of Colchicum Autumnale. By G. WALLIS, M. D.

This medicine was employed by the writer in seven cases, which he details, of rheumatism, hysteritis, deep seated pneumonia, pleuritis, phthisis pulmonalis, incipient hydrocephalus, and diabetes. The history of the first case confirms the opinion of the occasional benefit of colchicum in this disorder, we say occasional, for we have sometimes found our expectations from it very much disappointed. In the second case it was combined with calomel with great benefit, the patient had retention of the menses, and in most cases of this sort, we believe it will be found useful, upon Hamilton's principle of the propriety of active purgatives in small doses. In the cases of pneumonia and pleuritis it was employed apparently as a substitute for bleeding and blisters, a hazardous experiment we apprehend, and one that we should be unwilling to follow, notwithstanding the successful termination of these cases. From the case of phthisis pulmonalis, we think no inference can be drawn, on which any dependance is to be placed. The patient could only take four grains, in two or three days, she also went into Wales, soon after commencing with it, and died with some disease of the brain two years after. The following copy of *incipient hydrocephalus* is also of a doubtful character, as all cases of this sort which are cured by brisk purgatives must be. The last case of diabetes, was more decided in its character, and also with regard to the beneficial effects of colchicum, which evidently controlled this dangerous disease in

a very remarkable manner. Its use was constantly followed by a diminution of the symptoms and its omission by their return and after several alternations of this sort it was directed to be continued 'until the tongue assumed a healthy and natural appearance, when this and all other remedies were gradually omitted without any recurrence of the disease.' We can only hope that this effect of the colchicum will be found uniform or even frequent. In all these cases the powder was used, the writer does not say whether of the root, or seeds. We cannot but think favourably of the colchicum in many instances of painful diseases, the objections to the uncertainty of its strength are obviated in a great measure by the use of the powdered seeds, besides that the same objections exist to the use of one of the oldest and best known articles of the materia medica, the squill.

On the treatment of a peculiar lameness produced by a Failure of the arch of the Foot. By THOMAS HADEN, ESQ.

Appendix to the above paper. By CHARLES THOMAS HADEN, ESQ.

The lameness is thus described.

'A gentleman was met walking in the street to-day: he was lame and awkward. His head, shoulders and elbows *projected backwards*, his abdomen protruded, his back sank inwards, his toes were turned outwards, and it seemed, when he walked, as if he had no motion in any of his joints. The ankles were particularly rigid, and he had a swing of the body in his walk, which arose from each hip being projected forwards, when he stepped out as if to counterbalance the want of motion in the ankle joint.' 'When the attention was directed to the foot, it was seen to be broad and flat; let any person try to walk with a stiff ankle and his toes turned out, and he will understand what is attempted to be described here.' 'On examining such cases, the foot is flattened, the arch underneath is to appearance lost, and the whole limb deprived of its symmetry and fine appearance; for the ankle is too much lowered, and the calf of the leg is in a great degree deficient. Pain too is often felt in the outer ankle on walking and standing long on the foot, great inconvenience, or indeed pain is experienced in walking even slowly; whilst quick motion, and particularly dancing, cannot be accomplished.'

The relief, or cure, is to be effected 'by means of a compress placed under the arch of the foot. Compresses of various kinds were tried, but nothing answered so well as broad strips of adhesive plaster rolled over each other, so as to form a compress of the proper width and thickness, and bound on the foot by means of other strips of plaster; the whole being fastened on, and kept tight by the application of a roller, or what is better, a laced stocking or

ankle piece. A compress thus put on, will not give pain, if it be made flat enough at first, indeed in the course of a day or two it becomes a great comfort to the wearer. It should be changed once a week, and the compress may then be enlarged, this may be done very conveniently by rolling the strip of plaister which was used to keep the compress in its place, on the old compress itself.

The probability of a permanent cure and the caution necessary to keep the compress constantly applied may be judged of from what is known concerning effects and management of trusses in hernia, since the principle is the same.

The appendix by the gentleman whom we have had occasion to notice before, contains some cases of the deformity above described by his father, one of which was nearly cured and another would have been cured, if the application had been fairly tried.

On the treatment of Club feet. By THOMAS HADEN, ESQ.

After criticising the various clumsy and uneasy contrivances of various authors for remedying this deformity in children, Mr Haden proposes a simple method of effecting this object, which seems very promising.

‘Sticking plaster, if properly applied, is generally sufficient to remedy the deformity.’ ‘The following is the method which is now recommended. For an infant take a strip of plaster an inch broad and nine inches long. Place one end of it on the outside of the foot; carry the plaster over the middle of the instep and down under the foot, so that it shall cover the end which lies on the outer edge of the foot, then twist the foot strongly so as to turn the sole outwards instead of inwards, and secure it in that position by carrying the plaster round the inner ankle to the outside of the foot. This plaster must be changed *every day* and be further kept in its place by means of a roller, moreover at night, it is necessary to put both on the inside and outside of the leg and foot a strong splint of pasteboard, like a leg for drying stockings on, shaped at the bottom to the foot and reaching up to the knee, these splints are to be removed every morning.’ ‘This apparatus is not subject to be made injurious by being wetted by the child’s urine; and whilst all evil effects from the friction of hard bodies as splints, &c. are avoided, the slight inflammation which often results from the application of sticking plaster to the skin, is prevented from occurring by adding a small quantity of soap cerate to the sticking plaster.’

Several cases are mentioned in which this plan succeeded perfectly, slight variations in the mode of applying the plaister may be made, which the ingenuity of every practitioner will suggest to him according to the circumstances of the case.

Observations on the Fracture of the Patella. By ROBERT PALK MOGRIDGE, ESQ.

Practical observations on fractures of the Patella, and Olecranon. By THOMAS ALCOCK, ESQ.

The first paper contains a description of an instrument for confining the fractured portions of the patella in contact, accompanied by an engraving, without which we cannot make it intelligible. No instances of its application are mentioned.

The second objects to all kinds of instruments for this purpose, the author depends principally upon the relaxation of the extensor muscles, by keeping the limb perfectly straight, he enjoins in the case of fractured patella, much longer confinement than is often practised in these cases. The fractured portions are to be kept in contact by sticking plaister, by a compress placed above the upper part and lastly by a double-headed flannel roller. The manner of applying the roller is left to the good sense and dexterity of the operator, and as he observes 'it is not likely that any one expert in the use of the roller, and having a clear idea of the object to be obtained by its application, will fail in giving the necessary support, where it is required.' The fracture of the olecranon is treated upon similar principles. Mr Alcock adds that he has completely succeeded by this method of management.

Some observations on the utility of Opium in certain inflammatory disorders. By JOHN ARMSTRONG, M.D.

An account of this excellent paper was given in our number for April last.

Two cases of Obstruction of the Colon. By W. C. CALLOW, ESQ.

The cases are too long to detail, they occurred in two sisters and were both fatal. The symptoms indicated derangement of the abdominal pulmonic and cerebral functions in a severe degree; they were very similar: only one was examined. The appearances were an alteration of the shape of the os sacrum, the dorsum of this bone sticking out and the os coccygis bent in, so as to form altogether rather a triangle, than the usual ellipsis; an immense enlargement of the colon from the cæcum to the sigmoid flexure where it suddenly diminished, so as hardly to admit a finger; a diminution of the stomach to about the size of a large pear; an enlargement of the heart generally, especially the left ventricle, an enlargement of the aorta from its commencement to the crura of the diaphragm where it measured six inches in circumference. just below this it was gradually contracted, something in the manner of a French

wine bottle, to a very diminutive size. Three of the vertebræ where the expansion of the aorta was greatest, had been diminished by absorption. The author attributes these derangements, which he supposes to have commenced with the compression of the sacrum and contraction of the colon, to sedentary habits and costiveness, but while we admit that these circumstances are sufficient to produce evils of the most remarkable kinds, we think that some constitutional organic tendency to this particular kind of derangement must have existed in this family and the rather, as two other sisters belonging to it, are said to have suffered from symptoms somewhat similar to those which existed in these cases.

Case of poisoning with Opium. By J. HAYES, Esq.

The usual methods, emetics, bleeding, enemas, &c. were used in this case with success. The principal object of the paper seems to be to recommend sulphate of zinc as an emetic in such cases. This recommendation we believe is unnecessary in this country.

Remarks on the Neuralgia, as a class of Diseases, with an allusion to a Case of aphonia in illustration. By DAVID UWINS, M.D.

This paper consists principally of theoretical discussions, which we do not think of sufficient importance to occupy the time of our readers. The case of aphonia was cured by galvanism and nitrate of silver.

Case of congenital division of the Palate in which union of the parts was effected. By THOMAS ALCOCK, Esq.

Mr Alcock is one of the most industrious contributors to this volume and his papers are generally interesting. The extent of the division of the palate was 'the whole length of the soft palate and uvula, exposing the inside of the posterior part of the nostrils to view, when the mouth was opened.' The patient was twenty-two years of age; the union was effected by five successive operations, upon the principles of the hare-lip operation, except that in the first trials, the interrupted suture was used. It was afterwards however found necessary to employ the pins. The difficulties and vexations of such operations in such a place will be obvious to every medical man, and the successful result is highly creditable both to the perseverance of the surgeon and the patience of the subject.

The volume closes with a brief memoir of the late William Richard Morel, one of the surgeons of Westminster hospital, of which we think it unnecessary to give any further account.

SELECTIONS.

The Pathological Characters and Sanability of Consumption.

[Concluded from page 315.]

II. THE process of ulceration occasionally takes place higher up in the course of the same membrane, and gives rise, as was first distinctly proved by Morgagni, to a modification termed laryngeal or tracheal consumption. There is no doubt that this ulceration is the result of previous inflammation; but the tissue originally inflamed is not always the same. It appears, in general, to commence first in the mucous membrane; and various examples are recorded in which this process had been developed under the influence of different exciting causes. One very generally blamed for ulceration of the laryngeal mucous membrane, is the poison of syphilis; and the second volume of the *Annals of Thomann* contains a case by Christin, in which, though the individual denied any syphilitic taint, cicatrices of former ulcers were found on the corona glandis.* In many instances of this description, we should be inclined to ascribe it to the ordinary operation of cold and moisture, and more especially if the patient has been well dosed with mercury. Of five cases of laryngeal consumption which have fallen under our observation, we have been able to trace two with certainty, and one with probability, to this cause; and we presume, from the mode of commencement and the concomitant symptoms, that inflammation of the mucous and submucous tissue of the laryngeal membrane, acute, subacute or chronic, was the beginning of that process which merged in ulceration with the usual constitutional signs. In other instances, it appears to have originated in disease of some of the subjacent tissues; and examples have occurred in which ossification of the laryngeal cartilages appears to have been the first event in the process. It is to be observed, however, that it must not be concluded from every case of laryngeal ulceration, in which the cartilages are found ossified and carious, that the ulcerative process was occasioned by previous disease in the ossified cartilages. This may happen to be the correct relation or order of events; but it may be merely a coincidence, or, in some circumstances, a consequence of disease of the soft parts. Ulceration of the larynx may be the consequence of acute inflammation, which has terminated without suffocation, or

* *Annales Instituti Medico-Clinici Wirceburgensis redegit et Observationibus illustravit J. N. Thomann, M. & C. D., &c. Volumen ii. p. 285.*

of chronic inflammation, occasioned by any of the usual exciting causes. In such circumstances, purulent matter is found in the ventricles of the larynx, the mucous membrane is detached by irregular ulceration, and some thickening, ascribed to strumous action, is found in the contiguous and subjacent tissues.* Ulceration of the tracheal membrane is too frequently the result of chronic inflammation, which is here remarked to occur in strumous habits, or at least in persons who are very liable to have catarrhal and chronic affections of the mucous membranes in general; and as it is often combined with ulceration of the œsophagus, it has been presumed to have commenced in this tube, and thence extended to the trachea.†

The termination of these cases is generally unfavourable; yet an ulcer of the larynx or trachea appears to be as much under the influence of medical management, as in any other part of the body. That there is nothing in the nature of the tissues of which the larynx and trachea are composed, which should prevent the process of restoration, we have every reason to conclude, not only from the facility with which wounds of these tubes, whether accidental or operative, are healed, but also from the instance of tracheal consumption mentioned by Borelli, and from the remarkable case related by Dr Lettsom, in which the foil of a button, which had dropped into the windpipe, gave rise to all the symptoms of consumption, which disappeared as soon as the foreign body was spit up.‡ It is impossible to conceive that such a substance should continue for four months in the windpipe, without producing ulceration, and equally impossible to suppose that recovery could take place unless the ulceration had been cicatrized; and we are forced to conclude, that there must be in the constitution of the individual, or in the treatment, some circumstances which exercise a great influence in preventing or promoting this favourable result. In a case related by Heller, in Thomann's Annals, recovery took place under the use of sulphuret of antimony and hyoscyamus, with a restrained diet, composed chiefly of Iceland moss, and afterwards with inunction over the throat of an ointment containing calomel and opium.§ Many cases however show, that the great local action or irritation is a principal agent in preventing the sanative process; for when this is removed by any means whatever, the symptoms have subsided, and health has been restored. Such appears to

* Baillie, 91.

† Baillie, 93.

‡ Memoirs of the Life and Writings of the late John Coakley Lettsom, M.D. &c., with a Selection from his Correspondence. By Thomas Joseph Pettigrew, Vol. iii. p. 82. Art. XIII.

§ Annales Instituti Medico-Clinici, &c. Vol. i. p. 171.

have been the case in the instance recorded by Morgagni,—at least if it be admitted that the symptoms were occasioned by an ulcer of the tracheal membrane.*

Ulceration of the trachea occasions death either by its effects on the general health, which is perhaps the most common mode,—or by the ulcerative process establishing a communication between its cavity and that of the œsophagus,—and thus producing suffocation. Ulceration of the larynx, besides these two modes of causing death, may do so in a third, which we rather think is its most frequent mode of termination. This is by its concomitant inflammation affecting the investing membrane of the arytenoid cartilages, or the substance of these bodies themselves. The result is remarkable. As these cartilages and their investing membrane form the narrow slit or chink termed the *glottis*, and as a very slight degree of swelling obliterates the opening, suffocation may suddenly take place, and be followed by death. This is indeed to be regarded as a secondary form of inflammation of the larynx, so suddenly and generally fatal. In all the examples of laryngeal consumption which we have seen terminate fatally, and which we have had opportunity of examining after death, we have found the arytenoid membrane swelled and thickened by effusion of fluid beneath it, and the aperture of the glottis much or completely obliterated. In some of these cases it is worthy of remark, that points of the laryngeal membrane, which had been in a state of ulceration, had undergone a process of repair, and had been cicatrized. In other parts, a sort of fungous granulating substance had risen from the place occupied by ulcers. In the cases recorded in the *Medico Clinical Annals of Würzburg*, to which we have already alluded, two terminated fatally; the third recovered. In those which terminated fatally, the mucous membrane covering the epiglottis, and the arytenoid cartilages of one side, were removed by ulceration, which had extended also over the velum, uvula, and part of the pharynx. In one, the membrane between the epiglottis and arytenoid cartilage was destroyed by ulceration. In the other it was ulcerated; the margins of the glottis were ulcerated and warty, and the upper thyro-arytenoid ligament of the left side was completely destroyed. In a case recorded in the *Memoirs of the London Medical Society*, of four months duration, the epiglottis and upper part of the trachea was ulcerated, and the hyoid bone was necrosed, exfoliating, and carious.†

III. It has been the subject of much controversy among medi-

* *De Sedibus et Causis*; Epist. xxii. 27. 31.

† *Memoirs of London Medical Society*, Vol. iv.

cal persons, whether the pleura can be inflamed without the same process extending to the lung; and whether pleurisy can exist without peripneumony. The pathological collections of Haller and Morgagni have been supposed, by many authors, to prove the contrary, and to establish the inference,* that, though a portion of lung may be inflamed without affecting the pleura, it is impossible for the pleura ever to be affected without a similar state in the contiguous portion of lung. To the nosologist who feels himself obliged to create a disease from symptoms, this distinction is perhaps of some importance; but to the pathological physician, who fixes his observation on the changes incident to the organic tissues, and connects them with the exterior signs to which they give rise, it is of no other use than merely as a fact of which he must be aware, and the value of which he will appreciate in studying the successive phenomena of any morbid process. Since, however, it may be considered as established, that the pleura is often inflamed without affecting the pulmonic substance, the name *pleurisy* must be restricted, according to the distinctions of modern pathology, to inflammation of the pleura only. This disease may exist in every variety from the most acute, which runs its course in five or six days, to the most chronic, which continues for weeks and months—in some instances more than a year. In the first case, the rapidity of its progress, and the violence of its effects, rarely allow it to give rise to phthisical symptoms; but when the disease, either by becoming chronic, or by being originally so, has lasted for weeks in the same or similar tenor, the symptoms, which had at first been those of symptomatic fever, are gradually converted into hectic, with its usual concomitants of wasting and loss of strength. It is therefore to the chronic forms of pleurisy that our present inquiries pertain.

The serous membrane of the lungs, when inflamed chronically, presents nearly the same anatomical characters as it does in the acute state. The membrane becomes of a red punctuated or dotted appearance, with minute points of a deeper red than in the acute disease, but of the same irregular figure, the spaces between of natural colour; but the membrane is also traversed by numerous vessels red or dark coloured, but quite distinct, and not colourless as in the natural state. Many pathological observers, and among others Dr Baillie, have described the pleura as thickened when in a state of inflammation, and have considered this change so usual, as to be deemed a necessary consequence of the inflammatory process. This effect has been

* Haller, Opusc. Path. xiii. xiv. Morgagni, Ep. xxx. Pringle, 142.

denied by M. Laennec, who informs us that he never could perceive the membrane distinctly thickened; and asserts, that the phenomenon described by these authors as *thickening*, is either an extensive congeries of miliary tubercles on its free or adherent surface,—or a cartilaginous incrustation on the parts covered by the membrane,—or, lastly, false membranes more or less dense, adhering closely to its free surface.

The red-punctuated appearance may be regarded as the first or incipient part of the inflammatory action occurring in the pleura. It extends through its thickness, and continues as long as the disease lasts. But it never continues long without being attended with the formation and effusion of new matter from the free surface of the membrane. The first and most usual of these is the gelatinous or rather albuminous substance, denominated by J. Hunter coagulating lymph. When effused, this substance is always semifluid, viscid, of a yellowish colour, and not unlike imperfectly coagulated animal jelly. In a short time it is penetrated with vessels, shrinks or diminishes in size, becomes firmer, and acquires the vital property of exhalation. It then constitutes what has been named false membrane; and if, as frequently takes place, it is united to the corresponding part of the opposite pleura, it is termed *membrane of adhesion*, or simply *adhesion* (concretio, concrementum.)

The second species of matter formed by the inflamed pleura, is an opaque fluid of grey, or cream-like aspect, but not uniform in consistence. If allowed to stand, it separates into a thin watery fluid, which resembles green whey or milk much diluted with water, more accurately than any other thing; and a thinner matter which remains at the bottom of the vessel, and which, on examination, is found to consist of different kinds of substance, the proportions of which vary according to the duration and degree of disease. The first of the constituents of this thick substance appears to be merely the same kind of fluid as that which was decanted from it, and, when properly separated, appears to differ in nothing unless in being mixed with the other matters. The second ingredient which we shall notice, is a thicker semifluid substance of minute globules or grains, which appear to float, or be mechanically suspended in the more fluid portion. This appears to be a modification of purulent matter, and may be regarded as the purulent fluid properly secreted by the inflamed pleura. The third ingredient of this fluid consists of shreds or patches of curdy or albuminous matter, which is evidently of the same nature as that which forms the exudation of the membranous adhesions.

In acute pleurisy, besides the red appearance of the mem-

brane, lymph is effused, and more rarely the sero-purulent fluid which we have described. But in the chronic disease, whether it has existed so from the beginning, or has supervened on an attack of acute inflammation, this fluid continues to be effused for a considerable time, and its presence constitutes the distinguishing pathological character of the disease. It is to be regarded as the immediate effect of the process going on in the pleura, and it will continue to be effused as long as this process continues. While the effusion of these morbid fluids from the pleura goes on, the increasing quantity breaks down whatever membranous adhesions are not sufficiently strong, and separates the lung from the inner surface of the chest, with which it had been previously in immediate contact. It thus compresses the organ more and more daily, until, when it has filled almost the whole cavity of the pleura, the lung is reduced to so small a size, that, on examination, it would seem to have been completely destroyed. After death, however, when the matter is removed, it will be found forced up towards the mediastinum and spine, and reduced to a very small compass indeed. In consequence of this compressed or squeezed condition, the lung becomes much smaller, its vessels are emptied, or at least the blood is prevented from filling them and moving freely through them; its bronchial tubes are crushed together, so as to prevent the admission of air beyond the first divisions; and the whole organ is rendered unfit for the purposes of respiration. If a lung which has been long subjected to this pressure be examined, it will be found not to crepitate, or at least indistinctly, to float imperfectly, and to be incapable of inflation by its bronchia, or complete injection by its vessels. This is the condition of lung so often mentioned by Broussais in his Cases, under the name of *atrophied lung*,—19, 20, 24, 25, 27, 28, 30.

In some instances of this author, the lung is also said to be reddened and hardened, or hepatised. It is easy to see that it must be impossible for a substance so light and elastic as lung to be forced into the small space mentioned in such cases, without becoming much denser, heavier, and more solid. But we conceive this state ought to be entirely distinguished from that which we have already described, when enumerating the pathological changes incident to the organ in chronic catarrh. That was shown to consist in an increased quantity of matter in the same space, without diminution of volume; in other words, by the deposition of new substance in the interstices of the old. The change of which we speak at present, consists in approximating more closely the particles of the old matter, or in forcing it to occupy a smaller space.

In the course of this process, various events may take place, which, as they are more or less intimately connected with chronic pleurisy, may be noticed shortly.

1st, Suppurative destruction may take place in one point of the pulmonary pleura, and the corresponding part of the lung, by means of which one or more bronchial tubes are laid open, and a considerable quantity of purulent or sero-purulent fluid is discharged in certain positions by coughing. This fluid always comes up in considerable quantity, sometimes in a continuous stream, as if discharged by vomiting; but the sensations of the patient, and the distinct coughing, show that it comes through the windpipe. The time and the quantity of this discharge, will depend much on the direction of the communication between the bronchial tubes and pleura, and on the manner in which it is made. In some instances which have fallen under our observation, the capricious irregularity of its appearance was explained after death by the appearance of a sort of valvular apparatus, consisting of coagulable lymph, placed very near the pleural end of the fistula. We have reason to believe, that this is an event not uncommon in the course of chronic pleurisy; for we have seen two or three examples of it in the course of some years.*

2d, Suppurative destruction may take place in one or more points of the costal pleura, and a quantity of the sero-purulent fluid, more or less considerable, is expelled through openings between the ribs. Previous to this, in general, the effect of the effused fluid on the side becomes manifest. It becomes enlarged; the intercostal spaces become broader, and rise to a level with the ribs, or even above them. At the same time, the integuments become oedematous, and the cutaneous veins are much enlarged. This is a less frequent occurrence than the former; but several examples have been recorded by physicians, at no remote period. Dr Hunter's collection contained a preparation, in which matter had been discharged through several openings in the intercostal spaces; and we may refer for examples to the *Miscellan. Curios. sive Ephemer. Decur. III. An. V. Obs. 49.* *Memoirs of Med. Society, vol. III. p. 127.*

3d, We have already mentioned the effect which the effused fluid produces on the size of the lung, and shown that it forcibly compresses this organ toward the spine and mediastinum. We have now to remark, that when chronic pleurisy occurs in the left side of the chest, as the quantity of sero-purulent fluid increases, it not only compresses the lung, but frequently displaces the heart so much, that the pulsations of this organ are

* See Morgagni, *Epist. XX. 6*, where a good case with dissection is given.

not felt at its usual situation on the left side, but first close to the sternum, and afterwards on the right side entirely. We have met with two cases in which this change of situation had taken place, and in both it was occasioned by the great quantity of purulent fluid filling the sac of the pleura. When it occurs, it is liable to be mistaken for serious disease of the heart; but examination shows, that the change of pulsation is caused merely by forcible displacement, without change of structure of the organ.*

The knowledge of circumstances of this kind is not only necessary in showing the true nature of this malady, but is also not without its use in inquiring into the organic process by which the disease and its effects are removed. This inquiry resolves itself into three points; 1st, Whether the chronic inflammation of the pleura has been, or may be checked, under a course of management; 2d, Whether the fluids which it has formed can be removed from the pleura by the powers inherent in the living tissues; 3d, Whether the lung which has been compressed can be restored to its original state, and be again fit for the purposes of respiration.

That the process of chronic inflammation may be checked or suspended in the pleura, appears to be quite as possible as that it should be so in other tissues and organs of the human body. But there are circumstances here which operate in a manner totally different from what is observed in other situations. 1st, When fluid has been once effused, it appears to operate like a foreign substance, and aggravate, in some instances, the original disease. If it be considerable, it breaks down the layers of lymph which otherwise connect the pulmonary to the costal pleura, and prevent the further extension of the disease; and by compressing the lung, it renders the chance of removing the disease much less likely. 2d, The removal of the effused fluid by absorption, is a very precarious and uncertain event; and though it has been known to occur, it has not been ascertained what are the circumstances which favour this termination. Some recent observations would appear to show, that the same agents which check local inflammation, are the most likely to be bene-

* Since the above was written, another instance of the facility with which the effect thus mentioned may be ascribed to disease of the heart, is placed before us. In the volume of the Transactions of the Medico-Chirurgical Society of this place, just published, the concluding case of Dr Abercrombie's valuable paper on the Pathology of the Heart, is a very distinct example of chronic pleurisy, though given as displacement of the heart. This organ was undoubtedly displaced; but the change of position was a mere effect of the sero-purulent effusion, which again was the effect of the original disease,—inflammation of the pleura. *Trans. Medico-Ch.* pp. 66 and 67. See also an interesting case in *Memoirs of Medical Society*, Vol. v. p. 215.

ficial. Notwithstanding these obstacles it appears, that chronic inflammation of this membrane does in a few instances cease; its effects disappear, and the individual recovers a considerable degree of health, in some instances is completely restored. The cases hitherto recorded show, that one of three events is requisite to this termination. Either, on the cessation of the inflammatory action, the fluid effused is gradually absorbed, while the lung expands, and the lymph with which its membrane is covered, forms points of adhesion with the pleura; or a communication between the pleura and bronchial tubes takes place, by which the effused fluid is discharged by expectoration; or an opening takes place in the intercostal spaces, and allows it to escape in that manner. If the disease terminates in the first of these modes, a very peculiar change generally takes place in the chest, which has been best described by M. Laennec under the name of Contracted Chest. As we had occasion to speak of this formerly, when examining the pathological researches of this author, we satisfy ourselves with this notice of it, and referring our readers to that article,* and the work of M. Laennec. We have only to remark on this point, that one of Dr Beddoes's consumptive cases is evidently an instance of chronic pleurisy, in which this sanative process had partially taken place,† and the explanation of which is certainly due to the researches of M. Laennec.‡

When chronic pleurisy terminates by a fistulous communication between the pleura and bronchial membrane, a degree of pneuma-thorax generally takes place, unless the lung expands with the same rapidity with which the sero-purulent fluid is discharged from the cavity. In most cases which eventually recover, membranous adhesions seem to prevent this from being so considerable as to compress the lung; and, indeed, the equality of temperature in the air which escapes, and in that which is contained in the pulmonary vesicles, generally operates as a resisting power. If the pneuma-thorax be considerable, it may retard, or ultimately prevent recovery. In some instances, the expanding power of the lung itself seems to force out the sero-purulent fluid, without admitting any air to the cavity of the chest. This is a form of consumptive disease by no means uncommon.

* *Edin. Med. and Surg. Journal*, Vol. XVIII. p. 462.

† *Observations on the Nature and Cure of Calculus, Sea-Scurvy, Consumption, &c.* By Thomas Beddoes, M.D. 1793, p. 146; and a *Letter to Erasmus Darwin, M.D. on a New Method of Treating Pulmonary Consumption, &c.* By Thomas Beddoes, M.D. pp. 23 and 24.

‡ Laennec, by Dr Forbes, p. 159. Sect. IV.

We may here notice another variety of this mode of termination. Not only may a fistulous opening take place between the bronchial membrane and pleura, so as to admit air into the cavity of the latter membrane, but the cellular tissue of some point of the walls of the chest may be laid open by ulceration, and, air escaping into it, may form an emphysematous swelling of more or less of the surface, with or without discharge of purulent matter. This termination is well illustrated by a case of pleurisy terminating in emphysema and consumption, described by Trever in the 1st volume of Thomann's *Annals*,* and by a remarkable case, in which there was a fistulous communication, openings through the parietes of the chest, *pneuma-thorax*, and emphysema, described by Dr Duncan in the 1st volume of the *Transactions of the Medico-Chirurgical Society of Edinburgh*.†

If it were possible to form a decided opinion from reports of cases already recorded, we should say that termination of chronic pleurisy, by spontaneous opening through the intercostal spaces, was by far the most common, and perhaps the most favourable. Its event, however, is precarious; and the great variety in this respect will perhaps prove to depend on the condition of the lung, and the degree in which the constitution is affected. When the lung is sound, and without tubercular or other destruction, if none of the ribs be carious, a favourable result is more probable than in the contrary circumstances. It is easy to estimate the degree of danger depending on other causes; and we have only to refer to the following examples, in which the disease was almost invariably regarded as consumption which had been cured. *Miscellan. Curios. sive Ephemerid. Decur. III. An. V. Obs. 49*, said to be consumption cured by nature. *Warner's Cases in Trans. Roy. Soc. vol. XLVII. p. 407. XLVIII. p. 270, successful. Vol. LI. p. 194, fatal. Memoirs of Med. Society, vol. V. p. 215, fistulous opening and incision, recovered. Vol. V. p. 309, incision, fatal.*

We conclude this part of our subject with two observations; 1st, The history of chronic pleurisy, and of its pathological characters, shows that physicians have overlooked its importance and true nature, and have more generally attended to its effects than to its intimate and proper character. In the writings of authors, both practical and pathological, it is designated only by one of its effects,—the effusion of sero-purulent or sanguineo-purulent fluid (*empyema*, some cases of *hydrothorax*); and we rather think that physicians have too often allowed the primary pathological cause, inflammation of the pleura, to be completely

* P. 176

† P. 455.

forgotten in the result or consequence of its action. Empyema and hydrothorax are indeed not so much diseases, as the effects of one and the same morbid cause ; and it is equally inconsistent with rational pathology, or the sound observation on which it depends, to create as many distinct maladies as these variations in the action of that cause in which the disease truly consists. 2. There is reason to conclude, that several of the cases recorded as pulmonary abscesses expectorated and cured, were examples of chronic pleurisy terminated by the formation of pulmonary fistula. We shall see that Laennec denies the ordinary occurrence of pulmonary abscess ; and if it be so rare as he contends it is, or even as we ourselves allow it to be, the cases recorded admit of satisfactory explanation, in no other way than by referring them to this cause. Such may have been the case related by Dr Wright in the Transactions of the Royal Society, generally quoted as an instance of pulmonary abscess ; and we believe that the reading and experience of many of our professional friends could easily furnish them with similar examples.

IV. The formation of a distinct abscess of the lungs as a consequence of inflammation, was at one time generally admitted among pathologists. Laennec, however, who describes suppuration of the lungs under his third degree of pulmonary induration, maintains that it is exceedingly rare, and gives it as the result of his observation, that small abscesses are found in the pulmonic tissue not above four or five times, and an extensive one not above once, in many hundred cases. All the reported cases of pulmonary abscess, or suppuration of lung, as a consequence of inflammation, he regards as excavations or *vomicæ* formed by the softening of extensive tubercular masses. It is possible that suppuration, as a consequence of inflammation of the lungs, may be rare, for two reasons ; 1st, Because the disease may prove fatal by suffocation, before it has attained the complete suppurative stage ; 2d, Because, under the influence of remedies, it may be so much modified as to prevent the formation of purulent matter in a distinct sac or cavity. But we do not regard it as so rare as M. Laennec appears to represent it. Instances are recorded by Morgagni, in which a considerable portion of the pulmonic tissue was converted into a purulent abscess, with the contiguous structure apparently healthy,—or indurated as a consequence of previous inflammation.* Dr Baillie expresses himself with some uncertainty ; for his language may be interpreted so as to apply either to tubercular *vomicæ*, or to pulmonary abscesses ; though it is evident, and more especially from what he

* Epist. LXI. 2. XXVIII. 12.

says in his engravings, that he believed in its ordinary occurrence. Is the preparation which he has delineated in his Vth Engraving, p. 37, to be regarded as an instance of it? Is the case recorded by M. Foubert, in the *Memoirs of the Academy of Surgery*,* or that by Dr Wright in the *Transactions of the Royal Society*,† or that related by Heller in the *Annals of Thoman*,‡ to be regarded as examples of pulmonary abscess? That by Dr Wright might have been an instance of chronic pleurisy with pulmonary fistula; and there is scarcely a case which might not be explained without supposing a true pulmonary abscess. In what light are we to view the imposthumes described by Dr Bisset, in his correspondence to Dr Lettsom?§ There is a defect of evidence on this subject; and we require several good cases, with the appearances after death, in order to ascertain the frequency or the general occurrence of abscess as a consequence of pneumonic inflammation.

Though we have considered induration or consolidation of the lungs as a consequence of long continued bronchial inflammation, we must here observe, that it may occur primarily as an effect of chronic peripneumony. Without dwelling longer on the pathological properties of this change, we have merely to remark, that various facts prove that this chronic inflammation gives rise to phthisical symptoms so well marked, that it is impossible to distinguish them by the usual means from those occasioned by tubercular destruction. The most satisfactory instance is that described by Dr G. Pearson, to which we have already alluded.

The pulmonic tissue appears to be subject to a particular form of inflammation terminating in formation of matter, but occurring in many minute points. We have met with two or three examples only, in which, without expecting any morbid appearance, we found the pleura sound, the lungs interspersed at considerable distances with numerous minute abscesses, but the intermediate tissue quite healthy. As it occurred that these were softened tubercles, the whole organ was carefully examined, yet without finding any thing but minute spherical abscesses of various sizes, and with the surrounding texture natural. The peculiarity, therefore, of this species of suppuration, is its not being preceded, so far as could be ascertained, by tubercles, the pulmonic tissue neither inflamed nor

* Tome i. of 4to, iii. of 12mo.

† Vol. xxiii. p. 1378.

‡ Vol. i. pp. 215 and 224.

§ *Memoirs of Life and Writings of Dr Lettsom*, Vol. iii. p. 315.

indurated, and the simultaneous formation of many purulent points.

Is this to be regarded as a pustular inflammation of the lung? Will it explain the appearance of vomicae in the lungs of persons who were never suspected to have tubercles? Is it a disease peculiar to strumous habits? This appears to be the form of organic change which Dr Baillie mentions in the following terms.

‘I have sometimes seen a number of small abscesses interspersed through the lungs, each of which was not larger than a pea. The pus there is rather thicker than what arises from common inflammation, and resembles scrofulous pus. It is probable that these abscesses have been produced by a number of small scattered tubercles taking on the process of suppuration. The lungs immediately surrounding these abscesses are often of a perfectly healthy structure, none of the cells being closed up by adhesions.’*

Notwithstanding the opinion of this pathologist, that these were the result of scattered tubercles, it may be urged, that had this been the case, some unsuppurated tubercles might have been expected to be found, or the surrounding tissue might have been supposed to be indurated after such a slow and tedious process as the tubercular softening. Nothing of this kind, however, was remarked in the few cases which we have seen; nor does the description of Dr B. himself warrant any such conclusion. We know nothing of the possibility of these abscesses being either absorbed or discharged by expectoration, and the pulmonic tissue being restored. The state of the lungs would lead us to imagine, that recovery might be very probable. The whole subject requires more attentive and accurate investigation.

V. The pathological characters of pulmonary tubercles have so often on late occasions been brought under notice, that detailed inquiry at present is quite superfluous. While, therefore, we refer to our articles on the works of Mr Lloyd, M. Laennec, and Dr Baron, our observations in this place may be confined to a very narrow compass. The points of inquiry most important to be ascertained are, 1. Whether the presence or formation of tubercles gives rise to any changes in the functions of the living body, which may serve as pathognomonic signs of their existence; 2. Whether after formation they may continue latent or quiescent, that is, without seeming to undergo any changes tending to destroy the lung. 3. Whether medicine possesses any means of controlling this action; and, 4th,

* Morbid Anatomy, p. 72.

Whether the process of tubercular disorganization can be arrested or subdued.

It is most unfortunate, that the very matter on which all the other subjects depend, is involved in the utmost ambiguity ; for it is well known that in morbid dissections we daily meet with tubercles, which no symptom had led to be suspected, and even on the strictest interrogation from friends, or those who were in the habit of seeing the patient daily, it is impossible to obtain any certain proof that he was out of health. On the other hand, we often meet with cases in which phthisical symptoms are developed suddenly, and without previous indisposition, and continue till the fatal event, after which both tubercles and vomicæ are found in the lungs. These facts, which are well authenticated, and various examples of which are scattered through the works of pathologists, lead to one of two conclusions ; 1. that tubercles may exist in the human lung without either occasioning local inconvenience, or affecting the general health ; or, 2. That their formation is very rapid, and accompanied in many instances with the usual phenomena of inflammation. It is for this reason that many pathologists believe that tubercles may continue long without producing local uneasiness, or, in other words, in a latent or inactive state ; for it is difficult to imagine that bodies like tubercles could be formed in the short space which elapses between the first appearance of illness, and the complete formation of phthisical symptoms.

The ambiguity and obscurity indeed in which this subject is involved, renders it quite impossible to fix on a single point, from which we might proceed with confidence and certainty in the investigation ; and we have therefore no means of knowing whether tubercles are already formed in any given case, or whether, when formed, they may be absorbed. We are unwilling to encourage the opinion, that the veins or lymphatics are unable to remove by absorption, such bodies as dissections show tubercles to be ; but the records of medicine afford no unequivocal proof that a tubercle or tubercles ever were absorbed. In those cases in which the symptoms led to the belief that tubercles were forming, and had disappeared, it may be said, that the same symptoms might be occasioned by several varieties of disordered health, and, at all events, by chronic peripneumony or pleurisy. These considerations, which are founded, we may say, on strict matter of fact, show the exact bounds to which medical knowledge extends on the three first questions which we stated above ; and the physician is compelled, in the present state of information, to abandon all speculation or reasoning

on the tractability of the disease, or the powers of art in its early period, before it has assumed an active and unequivocal aspect.

It is therefore to that stage of their progress, which the symptoms have led physicians to denominate *active*, that the attention of the pathological inquirer must be directed with a view to ascertain the tendency of these bodies. And we find there is almost as much difficulty in determining the precise point at which quiescence ceases and action begins, as there is in ascertaining the presence of tubercles in any given case. It was long supposed that the appearance of purulent matter in the expectoration was the proof of tubercular softening, or suppuration. We have already seen, however, that purulent matter may be discharged without coming from tubercular vomicæ; and we have now to mention, that more careful observation, united to the aid afforded by morbid anatomy, has shown, 1st, That the process of tubercular softening is accompanied with considerable variety of expectoration; 2d, That it may be far advanced without being suspected by the symptoms; and, 3d, That there are few cases indeed in which it is not complicated with chronic bronchial inflammation, and in which, consequently, it is not attended with copious mucous or muco-purulent discharge, totally independent of that which comes from the tubercular matter.

According to the observations of Dr G. Pearson, whose authority we have already quoted, it appears, that tubercular deposition in the lungs may be attended with a variety of chronic inflammation of the mucous membrane, more or less local, in which the opaque ropy matter, which forms the third sort of his expectorated fluids, is secreted very copiously. This symptomatic action, which is popularly known under the name of *winter-cough*, may return and subside every winter for years, without coming to a fatal termination; and though tubercles are the remote cause of the expectoration, they are not its immediate source. This is to be understood of tubercular action in all ages, but chiefly after the period of youth.* The pulmonary consumption of young persons, depending on the presence of tubercles, is also attended with similar expectoration proceeding from the same cause,—a secondary local inflammation occasioned by the obstruction which the tubercles cause in the pulmonary circulation. This fluid has been often mistaken for the matter of softened tubercles; but dissection has shown this to be erroneous; for in the lungs of such subjects, though tubercles were numerous, and sometimes beginning to undergo the usual

* Transactions of the Royal Society, 1809, 1810,

changes, none were broken, nor could any communication be traced between them and the bronchial membrane.

‘The substance of which I am now speaking,’ says Dr Pearson (puriform matter, the 4th sort), ‘is most frequently excreted in the latter stages of pulmonary phthisis for many weeks successively. It is taken for granted, that this matter is from a breach of surface or ulceration;’ but on examination after death, such a state was not found in many instances, under my observation, although the lungs were, as usual, full of tubercles and vomicae.*

These facts, which are well authenticated, prove that, in many subjects at least, tubercular deposition, when it has attained a certain point in its progress, occasions a true bronchial inflammation, which may continue till the fatal event; and that the matter expectorated does not proceed from the tubercles, but from the inflamed bronchial membrane.

That enlargement, and the ulterior changes of tubercular destruction, may be much advanced without producing unequivocal symptoms, is so well established by the observations of Laennec, that it is unnecessary to dwell longer on it.

That tubercular disease of the lungs is complicated, generally in the early stage with chronic catarrh, and always in its latter stage with this and inflammation of the contiguous pulmonic tissue,—follows directly from what has been now stated; and these statements have been confirmed by the observations of Laennec. It is important, therefore, for the practical physician to remark, that every case of tubercular phthisis consists of at least two, sometimes of three simultaneous morbid processes: 1st, The proper tubercular action, which may either be in the stage of growth or increase, or in that of softening or destruction; 2d, Of a degree of chronic inflammation of the pulmonary mucous membrane; and, 3d, Of local inflammation of the pulmonic tissue, generally chronic, and tending to produce consolidation of the lung. Of these, the two latter only are in some degree under the control of medicine; for it is distinctly proved by the observations of Bayle and Laennec, that the process of tubercular softening has never yet been amenable to art, and that, when once commenced it continues until the whole is discharged. The researches of the last of these writers, however, have shown, contrary to what had been generally supposed, that at this period recovery may take place in two modes,—by the cavity becoming either invested by a new membrane, or obliterated by a cicatrix more or less complete, consisting of cellular, fibrous,

* Ibid 1809, p. 320.

or cartilaginous substance.* We have already noticed this mode of termination in our account of M. Laennec's work; and it is unnecessary to dwell longer on it here, than merely to say,—that the mode in which it is accomplished, is very different from that which has been hitherto supposed to indicate the cure of consumption, and which we have shown belongs properly to recoveries from chronic catarrh,—and does not afford that strong evidence of the sanability of genuine consumption which some pathologists are resolved to draw from it. It is obvious that the chance of a patient recovering in this mode, will depend, *1st*, on the time occupied in the discharge of the tubercular matter, and, *2dly*, on the number of tubercles in the lung ready to undergo the same change. If the health and strength of the individual be much reduced, during a long and tedious process of tubercular suppuration, or if many tubercles have to undergo the same changes, it is physiologically impossible for recovery to take place. When the state of the lungs in subjects affected with tubercular deposition is remembered, it will not require much argument to prove, that the proportion of recoveries even must be small indeed; for the majority of instances consists of cases in which not one or two, but many tubercles are simultaneously undergoing the same changes. Even the case of wound and cicatrix of the lungs, which has been supposed to encourage the hopes of curing consumption, does not here admit of application; for, while the inflammation and suppuration succeeding a sword-thrust, or the introduction of a pistol-bullet, are limited with more or less accuracy to one region of a single lung, or even of a single lobe,—cases of genuine pulmonary consumption generally depend on the presence of many tubercles, or tubercular vomicae, in the same lung, or even in both; and it is not the effect of one, but of the whole, that contributes to the fatal termination.

A single observation of importance in a practical view must not be omitted. To what extent should the efforts of the physician be carried, when he has no means of acting directly on the morbid process? Should he attempt to moderate or remove the local inflammation or congestion which depends on it? Or, is he to leave the whole to the constitutional powers of the individual? We are inclined to think that these limitations form the basis of the treatment of consumption; that the chief object of the physician is to moderate, as much as may be, the bronchial inflammation, or pneumonic congestion; but that, in doing so, all means should be avoided which are likely to impair the general strength.* Two evils, indeed, are to be

* Laennec by Forbes, p. 29.

avoided, neither to carry the antiphlogistic means of subduing the secondary inflammation so far as to impair the powers of the system; nor to administer those stimulating and irritating remedies which, whatever effect they have on the sensible strength of the individual, or even on the tubercular action, always aggravate the secondary inflammation.

The view which we have here taken furnishes several practical conclusions, which we trust it will not be unseasonable to notice briefly at present. It shows, in the first place, that the semeiology given by practical and nosological authors is imperfect, and affords the practitioner no certain means of distinguishing the precise nature of that process, which is going on in the lungs of his patient. It demonstrates, among other things, the inutility of the much laboured diagnostic of purulent expectoration, and that the physician can no longer trust to this as a means of ascertaining the probable state of his patient's lungs. An immediate and natural result of this is, that he may either be destitute of any certain means of applying the remedies suited to the particular variety of morbid action, or by supposing it beyond the reach of art, when it is still under control, may indulge in the hopeless indifference of inactivity. It is obvious, therefore, that it is requisite to look for diagnostic means more positive and particular in the information which they afford; and in which confidence may be reposed, both in ascertaining the effects of remedies, and the kind of curative means which are most appropriate. In this difficulty, it is unfortunate that not even the stethoscope can give us satisfactory information of the presence of tubercles previous to excavation; but, by negative evidence of their absence, and positive evidence, in many instances, of other morbid conditions of the organ, information much more certain can be obtained than by any other mode. When all the usual signs of consumption exist, and concur to perplex the physician, and prevent him from ascertaining whether these symptoms are occasioned by chronic catarrh, or tubercular softening, or from distinguishing between chronic pleurisy and the early stage of tubercles, he may rely on the evidence of the stethoscope with the greatest confidence. In other instances, as in fistulous opening into the pleura, and actual tubercular excavations, the necessity of discarding our ancient semeiology, and employing the less ambiguous aid of the stethoscope, is still more obvious. It is unnecessary to prolong these observations; but we trust they have not been completely useless, if they shall be the means of directing the attention of even a few of our readers to the importance of distinguishing, in practice, those pulmonary disorders which, though indicated by nearly similar symptoms, arise from different morbid states, and require varieties of treatment.

INTELLIGENCE.

MEDICAL GRADUATES IN HARVARD UNIVERSITY IN 1824, WITH THE SUBJECTS OF THEIR THESES.

- Reuben Barker.—*On Hemoptysis.*
 Henry Bartlett, A. B.—*On Inguinal Hernia.*
 Adolphus K. Borden.—*On Rheumatism.*
 Samuel Bowen.—*On Dropsy.*
 David W. Gorham, A. B.—*On Uterine Hemorrhage.*
 William B. Duggan.—*On Hysteria.*
 Cyrus Frink.—*On Dyspepsia.*
 Charles J. Hildreth.—*On Intermittent Fevers.*
 Timothy Hilliard, A. M.—*On Medical Hypotheses.*
 Hiram Hosmer.—*On Scrofula.*
 Samuel G. Howe, A. M.—*On Gunshot Wounds.*
 John C. Marschal.—*On Hare Lip.*
 Joseph W. Mc. Kean.—*On Amaurosis.*
 Augustus Plympton.—*On the Stethoscope.*
 Leonard Proctor.—*On Intermittent Fever.*
 Ebenezer Stone, A. M.—*On Dyspepsia.*

MEDICAL LECTURES.

The Medical Lectures of Harvard University will begin at the Massachusetts Medical College in Boston, on the third Wednesday in November at 9 o'clock, A.M.

Boylston Medical Prize Questions.—At the annual meeting of the Boylston Medical Committee, holden in Boston, the 4th day of August, 1824, it was voted, that the Medal of the Committee, or fifty dollars in money, be awarded to the author of a Dissertation upon the question, 'How long may the human body remain immersed in water without extinction of life, and at what period after immersion will it be useless to employ restorative means?'

The author was found to be Samuel Cartwright, M.D. of Natchez, Mississippi.

No dissertation on the other question proposed for 1824, was offered.

The following constitute the subjects for the prize dissertations for 1825, to wit:—

1. 'To what extent has the Vaccine Disease been found to be a preventive of the Small Pox?'
2. 'On the History of the Autumnal Fevers of New-England.*'

* The writers on this subject are not expected to discuss the causes, or modes of treatment of such fevers, as these are intended to constitute the subjects of future dissertations.

The Questions for the prize dissertations of 1826, are the following, viz. :

1. 'On the Diseases resembling Syphilis, and the best means of preventing such diseases?'

2. 'Whether the veins perform the function of Absorption?'

Dissertations on the two *first* questions must be transmitted, post paid, to David Townsend, M.D. of Boston, on or before the first Wednesday in April, 1825; and on the two *last* questions, on or before the first Wednesday in April, 1826.

The author of the best dissertation on each of these subjects will be entitled to the premium above mentioned. Each dissertation must be accompanied with a sealed packet, on which shall be written some device or sentence, and within shall be inclosed the author's name and place of residence. The same device or sentence is to be inscribed on the dissertation to which the packet is attached.

All unsuccessful dissertations are deposited with the Secretary of the Committee, from whom their authors may obtain them, if called for within one year after they are received.

JOHN GORHAM, *Secretary*.

New Medical Journal.—The first number of the New-York Monthly Chronicle of Medicine and Surgery made its appearance in July last. It is conducted by an association of physicians, and upon principles somewhat different from other Journals. The following extract from the prospectus gives an account of their plan.

'It cannot have escaped observation, that the necessity imposed upon writers in Medical Journals of attaching their names to communications, very much restricts that latitude of discussion and freedom of remark, which, it is believed, would tend, in a material degree, to advance the interests of Medical Science. With a view principally to obviate this defect, the present Journal has been undertaken. It is not intended, therefore, to interfere with the many respectable Journals already published in this country, but to supply the void caused by their indiscriminate rejection of anonymous articles, however great the ability or ingenuity with which they come recommended. A concomitant object will be to make this Journal a valuable and cheap repository of the latest practical improvements, and the most important information relating to Medicine and Surgery.'

Medical Institution of Yale College.—The Lectures in this Institution will be commenced on Monday, the 25th of October, 1824, and will continue till the 1st of March, 1825. The following courses will be given, viz.

Theory and Practice of Medicine and Surgery, N. Smith, M.D.

Chemistry and Pharmacy, B. Silliman, M.D.

Materia Medica and Botany, Eli Ives, M.D.

Anatomy and Physiology, J. Knight, M.D.

A course of Lectures on the Diseases of Children is also given by the Professor of Materia Medica, and a private course on Obstetrics by the Professor of Anatomy.

Berkshire Medical Institution, connected with Williams College.—The annual course of Medical Lectures in this Institution will commence on the second Wednesday of September, and continue fifteen weeks.

John P. Batchelder, M.D. on Surgery, Anatomy, and Physiology, as subservient to the Theory and Practice of Medicine and Surgery.

Jerome V. C. Smith, M.D. on General Anatomy and Physiology.

Henry H. Childs, M.D. on Theory and Practice of Medicine.

John Delematter, M.D. on Materia Medica, Pharmacy, and Obstetrics.

Professor Dewey on Chemistry, Botany, Mineralogy, Natural and Experimental Philosophy.

Stephen W. Williams, M.D. on Medical Jurisprudence.

New-Hampshire Medical Institution.—The Medical Institution of the State of New-Hampshire, has been established at Hanover, and is connected with Dartmouth College.

The annual course of Lectures commences two weeks after the College commencement;—this year on Thursday, the second of September, and continues fourteen weeks.

Anatomy, Surgery, and Obstetrics, by R. D. Mussey.

Theory and Practice of Physic, Physiology, and Materia Medica, by D. Oliver.

Chemistry, Pharmacy, and Legal Medicine, by J. F. Dana, Esq.

Medical School of South Carolina.—This school has been lately organized by the Medical Society of South Carolina, and the following gentlemen elected professors.

John Edwards Holbrook, M.D. Professor of Anatomy.

James Ramsay, M.D. Professor of Surgery.

Samuel Henry Dickson, M.D. Professor of Institutes and Practice of Physic.

Thomas G. Prioleau, M.D. Professor of Obstetrics and Diseases of Women and Infants.

Henry R. Frost, M.D. Professor of Materia Medica.

Edmund Ravenel, M.D. do. Chemistry and Pharmacy.

Stephen Elliott, LL. D. do. Natural History and Botany.

The Lectures commence on the second Monday in November next, and continue five months. To entitle an individual to examination for a degree, it is necessary he should have studied for two years with some established practitioner. Arrangements for private Dissection are particularly attended to, and subjects are obtained in abundance and with great facility, public opinion being rather in favour of, than opposed to, dissections. The college building contains a chemical laboratory, and the students have access upon the most liberal terms to the select and extensive library of the Medical Society. The privilege of attending at the Marine Hospital and the Poor house are obtained free of expense, and all operations in surgery at those establishments may be witnessed by the whole class.

Dr Prioleau is Dean of the Faculty for the present year.

New Publications.

The following works have been published by Messrs. WELLS & LILLY, Boston.

A Treatise on Nervous Diseases. By John Cooke, M.D. F.A.S. Fellow of the Royal College of Physicians, and late Physician to the London Hospital.

The Seats and Causes of Diseases, investigated by Anatomy: containing a great variety of Dissections, and accompanied with Remarks. By John Baptist Morgagni, Chief Professor of Anatomy, and President of the University at Padua. Abridged, and elucidated with copious notes, by William Cooke, Member of the Royal College of Surgeons, London—and one of the Secretaries to the Hunterian Society.

Observations on the Diseases of Females which are attended by Discharges; illustrated by Copper-Plates of the Diseases, &c. By Charles Mansfield Clarke, Member of the Royal College of Surgeons, Surgeon of the Queen's Lying-in Hospital, and Lecturer on Midwifery in London.

Dr Lobstein, of Philadelphia, proposes to publish by subscription a work entitled 'Experiments and Observations on the Extraordinary Effects of Phosphorus, in the Treatment of Different Diseases. By J. F. Daniel Lobstein, M.D. of the Faculty of Medicine of Paris, Corresponding Member of the Medical Societies of Paris, Bourdeaux, Toulouse, Marseilles, Honorary Member of the Medical Societies of Philadelphia, of Maryland, of Massachusetts, of Lexington, Ky., New Orleans, Pittsburg, Pa., &c. &c. Physician and Practitioner in Midwifery in Philadelphia.

A French edition of this work has been already published in Europe, and has been 'well received both in France, Germany, and England,' and the author has, therefore, thought that an English edition of this work might be interesting to the medical profession.

INDEX.

A.

	Page.
Abbot, Dr W., case of Tetanus	47
Aborigines of New Holland	101
Abortion threatened, case showing the importance of early examinations in	121
Absorbent System, Dr Knight on the	225
Absorption, experiments on by Magendie and Fodéra	100
Abyssinian Remedy for Tænia	97
Acid Prussic, Heller on its use	211
Adams, Dr C. G. case of organic disease of the uterus	49
case of imperforated Hymen	50
Adhesion of the Pericardium to the Heart, diagnosis of	98
Andral, M. on Strychnine	105
on Brucine	106
Aneurism, Dr Lyman's case of	19
Animal Heat, Dulong's experiments on	99
Apothecaries Associated, Transactions of the	410
Armstrong, Dr J., on the utility of opium in certain Inflammatory Disorders	203
Arsenic, cause of Carditis	99
Arsenic, Poisoning with, detected a month after interment	221
Artery, Carotid, case of ligature applied to the	357

B.

Baron, Dr J., Illustrations of the Inquiry respecting Tuberculous Diseases	367
Beale, John E., Esq. case of Tic Douloureux	102
Beclard, Professor, case of Salivary Fistula	105
Blood, direct passage of substances into the	216
Bowel complaints, use of spirits of turpentine in	10
chronic do. do. do.	14
Boylston Medical Prize Questions	445
Bronchotomy, case of, by Dr Jewett	237
Brucine, method of preparing	105
on the employment of	106
Burns, Remarks on by Dr Hayward	1
Vol. XIII.	57

C.

Calculi, urinary, application of Galvanism to their extraction	219
Cantharis genus, Dr Harris' description of 4 native species	243
Carditis, caused by Arsenic	99
Chronic affections of digestive organs, use of spirits of turpentine in	14
Cloquet, case of rupture of the diaphragm	104
Cloquet, M. Jules, on the scorbutus which prevents the consolidation of fractures	109
Coecum, ulceration of	103
Cogswell, Dr Mason F., case in which a ligature was applied to the Carotid Artery	357
Comstock, Dr J. L., Examination of Miner's and Tully's Essays	297
Consumption, on the pathological characters and sanability of	294, 427
Contagion of Spanish Yellow Fever	96
Convulsions, Puerperal, Dr Lyman on	337
Dr Woodward's cases of	355
Cooke, Dr J., Treatise on Nervous Diseases	251
Coventry, Dr Alexander, Address before the New-York Medical Society	281
Coxe, Dr, Memoria Medica	332
Croup, Professor Recamier's new treatment of	103
Cullerier, M., (neveu,) on the employment of Eau de Javelle in the treatment of Ulcers	109
Cumin, Dr, Fatal Cases of Burns	2

D.

Delisser, Mr, Effects of Iodine in Scrofula	213
Deweese, Dr Wm P., Essays on various subjects connected with Midwifery	138
Diaphragm, Cloquet's case of rupture of	104
Diseases of the Nervous System, Review of Dr Prichard's work on	58
Disorders, inflammatory, on the utility of opium in them, by Dr Armstrong	203
Distortions of the Spine, Mr Shaw on the	192
Dropsy of the Amnion and Fœtus, cases of	360
Dulong, experiments on Animal Heat	99

F.

Fallopian Conception	98
Fear, fatal effects of	105

Fever, Typhous, Practical Essay on, by Dr Smith	-	392
Flint, Dr J. H. on Spirits of Turpentine in Bowel complaints	-	10
Fracture of the os femoris, Dr Howe on the	-	229
Dr Howe's description of a new apparatus for the reduction of	- - -	223
Fractures, diagnosis of, by the Stethoscope	- -	220

G.

Galvanism, application of, to the extraction of urinary calculi	219
Good, Dr J. M. on the Tread-Wheel	93
Graduates, Medical, in Harvard University	445
Green, Dr H. B. C. Cases of Spotted Fever,	23

H.

Haden, Charles T. Esq. translation of Magendie's formulary of New Remedies	- - - - -	379
Hale, Dr E. cases of Sore-throat and Fever	- - -	239
Hale, Dr, Lectures on Medical Jurisprudence	- - -	331
Hale, Dr E. Fatal Case of Burn	- - -	4
Harris, Dr T. W. Description of four native species of the Genus Cantharis	- - - - -	243
Hayward, Dr G. Remarks on Burns	- - - - -	1
Heller, Dr, on the use of Prussic Acid	- - - - -	211
Hernia, strangulated diaphragmatic, Mr Macfayden's case of		110
Howe, Dr L. on Fractures of the Os Femoris	- - -	229
description of a new apparatus for the reduc- tion of fractures of the os femoris	- - - - -	233
Howe, Dr A. Remarks on Tetanus	- - - - -	41
Hutchinson, Benj. Esq. on the Tread-Mill	- - -	87
cases of Tic Douloureux, &c.	- - -	268
Hydatids in the Brain, case resembling	- - -	15
Hymen, imperforated, Dr C. G. Adams case of	- - -	50
Hyoscyamus, Therapeutic effects of	- - -	97

I.

Illinois Itch, Dr Newhall's Remarks on the	- - -	113
Impregnation produced by aura seminalis	- - -	97
Infanticide, trial for	- - -	214
Iodine, Mr Delisser, on its effects in Scrofula	- - -	213
Itch of Illinois, Dr Newhall's Remarks on the	- - -	113

J.

Jenckes, John C. Patent Apparatus for removal of the Sick	112
Jewett, Dr C. case of Bronchotomy	237

K.

Kergaradec, Memoire sur l'auscultation, &c.	52
Knight, Dr J. on the Absorbent System	225

L.

Larrey, Baron D. J. Surgical Essays translated by Revere	130
Lacocke, M., on oil of turpentine in sciatic neuralgia	223
Lectures on Medical Jurisprudence, Dr Hale's	331
Lyman, Dr N., on Puerperal Convulsions	337
Lyman, Dr Joseph, Case of Aneurism	19

M.

Macfayden, James, Case of Strangulated diaphragmatic Hernia	110
Magendie, M. F., Formulary of New Remedies, translated by C. T. Haden	379
Marshall, Dr J. E., Case of Retroverted Uterus	32
Labour with convulsions	34
Abortion with profuse hemorrhage	36
Massachusetts Medical Society, annual meeting of	329
Mayer, M., on the removal of Polypus of the Nose	223
Medical Colleges, increase of	333
Medical Lectures, notices of	447, 448
Medical Society of the State of New-York, Transactions of	281
Medical Society of Massachusetts, annual meeting of	329
Medical School in Boston, Lectures in	331, 445
Medico-Chirurgical Transactions, Vol. xii. Part II.	158
Midwifery, Essays on various subjects connected with, by Dr Dewees	138
Millbank Penitentiary, Scurvy in	74
Milk, vegetable	108
Mumps, or Parotitis, Dr Peirson on	116

N.

Nervous Diseases, Dr Cooke's Treatise on	251
Nervous System, Recent Discoveries in the Physiology of	180
Newhall, Dr H., Remarks on Illinois Itch	113
New Holland, aborigines of	101

O.

Opium, on its utility in certain inflammatory disorders, by Dr Armstrong	203
--	-----

P.

Parotitis or Mumps, Dr Peirson on	- - -	116
Peirson, Dr A. L., upon Mumps	- - -	116
Peirson, Dr A. L., Boylston Prize Dissertation on Pertussis or Chin Cough	- - - - -	289
Penitentiary at Millbank, Scurvy in	- - -	74
Percussion, Thoracic	- - - - -	315
Phillips, Dr J., Case of Tetanus	- - - - -	38
Physiology of the Nervous System, Recent Discoveries in the		180
Placenta, on the management of	- - -	125
Pressure, Abdominal	- - - - -	315
Prichard, Dr J. C., on Nervous Diseases	- - -	58
Prize Questions of New-York Medical Society	- - -	332
Prussic Acid, Heller on its use	- - - - -	211
Puerperal Convulsions, Dr Lyman on	- - -	387
Dr Woodward, cases by	-	355

R.

Recamier, Professor, New Treatment of Croup	-	103
Rectum, case of a foreign body lodged in	- - -	119
Revere, Dr John, Translation of Larrey's Surgical Essays		130

S.

Scrofula, Delisser on the use of Iodine in	- - -	213
Scurvy in the Penitentiary at Millbank	- - -	74
Shaw, John, on the Distortions of the Spine	- - -	192
Small-Pox in Lexington	- - - - -	224
Smith, Dr N., Practical Essay on Typhous fever	-	392
Spine, Mr Shaw on the Distortions of	- - -	192
Spotted Fever, Dr Green's cases of	- - -	23
Stethoscope, application of, to the diagnosis of fractures	-	220
Strychnine, Andral on therapeutical properties of	-	105
Surgical Essays of Baron Larrey, translated by Dr Revere		130
Sweetser, Dr W., on Disease in the Brain resembling Hy- datids	- - - - -	15

T.

Tænia, Abyssinian remedy for	- - - - -	97
Tetanus, Remarks on by Dr A. Howe	- - - - -	41
Tetanus, case of, by Dr J. Phillips	- - - - -	38
Tetanus, case of, by Dr W. Abbot	- - - - -	47
Tic Douloureux or Neuralgia Spasmodica, Dr Hutchinson's cases of	- - - - -	268

Tic Douloureux, Mr Beale's case of	- - -	102
Tongue, inflammation of, cured by incision	- - -	217
Transactions of the Associated Apothecaries of England and Wales	- - - - -	410
Treadmill, Mr Hutchinson's observation on	- - -	87
Tread-wheel, Dr Good's observations on	- - -	93
Turpentine, spirits of, use of, in Bowel complaints	- - -	10
in chronic do.	- - -	14
Typhous Fever, Dr N. Smith's Practical Essay on	- - -	392

U.

Uterus, Dr C. G. Adams case of organic disease of	- - -	50
---	-------	----

V.

Vaccination, General, in Boston	- - -	224
Vaccine disease, case of anomalous symptoms in	- - -	124

W.

Woodward, Dr, Cases of Puerperal Convulsions	- - -	355
Wounds, reunion of, after great operations	- - -	223

Y.

Yellow fever in Spain, Contagion of	- - -	96
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